

ENVIRONMENTAL ASSESSMENT BOARD



ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARINGS

VOLUME: 177

DATE: Tuesday, January 12, 1993

BEFORE:

HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

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ENVIRONMENTAL ASSESSMENT BOARD
ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARING

IN THE MATTER OF the Environmental Assessment Act,
R.S.O. 1980, c. 140, as amended, and Regulations
thereunder;

AND IN THE MATTER OF an undertaking by Ontario Hydro
consisting of a program in respect of activities
associated with meeting future electricity
requirements in Ontario.

Held on the 5th Floor, 2200
Yonge Street, Toronto, Ontario,
Tuesday, the 12th day of January,
1993, commencing at 9:00 a.m.

VOLUME 177

B E F O R E :


THE HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

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1 ---Upon commencing at 9:05 a.m.

2 THE REGISTRAR: Please come to order.

3 This hearing is again in session. Please be seated.

4 THE CHAIRMAN: Mr. Watson?

5 MR. R. WATSON: Thank you, Mr. Chairman.

6 AMIR SHALABY;
7 PAUL BURKE;
8 KEN SNELSON;
9 BRIAN DALZIEL; Resumed.

10 THE CHAIRMAN: Go ahead.

11 We seem to be losing our house. If this
12 show don't draw more we may have to close it.

13 (Laughter)

14 MR. R. WATSON: We may find out the
15 answer to that in a couple of weeks, Mr. Chairman.

16 CROSS-EXAMINATION BY MR. R. WATSON:

17 Q. Panel, I would like to first start
18 talking about the illustrative cases. The Update had
19 six cases, three that were managed surplus and three
20 that were not.

21 Exhibit 796 has two cases, an
22 illustrative nuclear and an illustrative fossil; is
23 that correct?

24 MR. DALZIEL: A. The -- 796 in one of
25 the attachments it does provide some information, the
load and capacity tables as we refer to them, on two

1 illustrative cases.

2 Q. And both of those cases managed the
3 surplus?

4 A. Partially. Both of them incorporate
5 surplus management measures consistent with the October
6 19th board memo.

7 Q. And surplus management is an Ontario
8 Hydro policy at this point?

9 A. It certainly is an objective within
10 the Corporation to manage the surplus as best as it is
11 able to do so.

12 Q. And all options are available to
13 manage that surplus?

14 A. As I said in my direct evidence, we
15 are continuing to examine all of the options for
16 managing the surplus.

17 Q. There is no enhanced plan in Exhibit
18 796, is there?

19 A. Not by that description, no. There
20 is the two cases --

21 Q. Is there by any other description?

22 A. We have just referred to the cases as
23 illustrative cases or illustrative plans in Attachment
24 J.

25 Q. Well, Mr. Dalziel, in Exhibit 452 you

1 had a fossil case, a nuclear case and an enhanced case.

2 In this exhibit, 796, you have a nuclear case and a
3 fossil case; you do not have an enhanced case. That's
4 correct, is it not?

5 A. No, we do not have an enhanced case.

6 Q. Thank you. Mr. Snelson or Mr.
7 Dalziel, I would like to talk briefly about need dates,
8 and I would stress here we are talking about need
9 dates, not in-service dates. So I would like to keep
10 that distinction in mind.

11 For the median forecast the need date is
12 approximately the same as it was in the first Update in
13 Exhibit 452; isn't that correct?

14 A. Yes, that's right.

15 Q. And I assume for the upper the need
16 date is still around 2001?

17 A. It might be a little sooner than
18 that. It might be around 1998.

19 Q. And, Mr. Dalziel, site and
20 environmental assessment still need to be submitted 10
21 years before the need date; is that correct?

22 A. It depends on the type of capacity
23 that is being -- for which approval is being sought.

24 Q. In our discussion in Panel 10 we were
25 talking about the nuclear option, and at that time

1 Hydro was suggesting a 10-year lead time for the
2 nuclear option. Is that still Hydro's position?

3 A. That is still Hydro's position. That
4 is as was described by Panel 9 and referred to again in
5 Panel 10.

6 Q. And the five-year action plan is
7 still a feature of Hydro's planning approach?

8 MR. SNELSON: A. We haven't made any
9 change in that regard.

10 Q. Mr. Snelson or Mr. Dalziel, from my
11 review of Exhibit 796, Hydro still has no plans for
12 seeking approvals for a nuclear station in service in
13 2009?

14 A. That's correct. And we said so, I
15 believe, in our direct evidence.

16 Q. Just so that we are clear, I
17 understand you are not seeking approvals but you have
18 no plans to seek approval either?

19 MR. B. CAMPBELL: Maybe we could bring
20 this --

21 MR. SNELSON: I'm not quite sure of the
22 difference. We are not seeking approval for nuclear
23 facilities through this process, and we have no
24 processes under way to seek approval for nuclear
25 facilities by any other processes.

1 MR. R. WATSON: Q. And the same thing
2 with large scale fossil stations?

3 MR. SNELSON: A. That's correct.

4 Q. Now, Mr. Snelson, if the upper
5 forecast or even a branch upper forecast occurs, Hydro
6 is not seeking any approvals to meet that load in the
7 most economic way, is it?

8 A. We are relying upon the response
9 portfolio approach substantially the same as during the
10 Update.

11 Q. So that is the same response
12 portfolio we saw in Exhibit 452?

13 A. Yes.

14 Q. And what you are telling us then is
15 that Hydro would have to go to higher cost options?

16 MR. B. CAMPBELL: Well, Mr. Chairman,
17 haven't we been through all of this during the course
18 of the hearing since January '92 when the Update came
19 out?

20 All of the characteristics of all of the
21 options to the extent that they have changed, this
22 Panel has spoken to them. To the extent that there are
23 not significant changes the evidence remains exactly
24 the same.

25 In my submission, we should not be

1 getting back into reviewing the costs of all of the
2 options.

3 MR. R. WATSON: Mr. Chairman, I am simply
4 trying to figure out what has changed since then and
5 what is the same since then.

6 I understand that Hydro still has the
7 same response portfolio, and I think that is a vital
8 piece of information that the Panel has to have before
9 it.

10 THE CHAIRMAN: I think it is appropriate
11 to ask if there have been changes in certain things,
12 and if there have been they should say so, if there
13 haven't been they say no. But you can't go back and
14 explore the earlier evidence. But you haven't been
15 doing that up to now, I don't think.

16 MR. R. WATSON: I didn't think so. Mr.
17 Chairman, I will carry on. If you or Mr. Campbell have
18 any objections I'm sure I will hear about them.

19 THE CHAIRMAN: Perhaps I can interject.
20 Just off to a little bit of a bad start.

21 In Panel 10 there were the six cases, the
22 three unmanaged and the three managed, and then there
23 was the upper case and the lower case. That's eight
24 cases. And then there was the no approvals case. That
25 is nine cases.

1 In 1996, how many cases are still
2 surviving?

3 MR. DALZIEL: In 1996 we have looked at
4 the -- had an initial look at the impact of the
5 decisions that had resulted from the September/October
6 board meetings and the new load forecast in December,
7 and essentially what we have done is we have run two
8 cases under median load forecast -- or, I should say,
9 we have only run one case, but we have developed load
10 and capacity tables that would describe two cases.

11 The difference between those two cases is
12 that one uses IGCC for the baseload facilities and the
13 other case relies on CANDU nuclear for the baseload
14 facilities. And those are described in Attachment J of
15 Exhibit 796.

16 THE CHAIRMAN: But what is the status of
17 any of the other cases or approaches that were
18 described in Panel 10 at the present time?

19 MR. DALZIEL: I think those cases remain
20 as cases before this proceeding, and what the two
21 illustrative plans that we have put forward in
22 Attachment J do is they show the impact of the recent
23 decisions, how that would affect the cases that were
24 described in Exhibit 452, principally the Update
25 nuclear and the Update fossil cases.

1 THE CHAIRMAN: Sorry, Mr. Watson, I
2 didn't mean to interrupt you. Well, I did mean to
3 interrupt you, but I'm sorry I did it. (Laughter)

4 MR. R. WATSON: Thank you, Mr. Chairman.
5 Your intervention is always welcome. That is exactly
6 where I was headed as a matter of fact. I had one more
7 question before I did get into that.

8 Q. Hydro still has no decision on which
9 major supply option it would choose; is that fair?

10 MR. DALZIEL: A. That's correct.

11 Q. And the criteria to make that
12 decision is the same as it was in the Update; that is,
13 Exhibit 74?

14 A. What is Exhibit 74?

15 Q. It is the DSPS.

16 A. Oh. Of course.

17 Q. Well, if there is some other criteria
18 perhaps you could tell me.

19 A. You are correct. The criteria would
20 be the same as in the DSPS.

21 Q. Which was the same as it was in the
22 Update?

23 A. Yes.

24 Q. Now, Mr. Dalziel, the Chairman
25 focused you in on the runs in Attachment J, and I would

1 like to talk to you for a minute about those.

2 You indicated that two cases in
3 Attachment J are based on the median forecast. And
4 just so I'm clear, you indicated there was only one run
5 conducted; is that fair?

6 [9:15 a.m.]

7 A. Yes.

8 Q. However, you have presented two
9 loaded capacity tables. Now, as I understand it, the
10 loaded capacity tables are inputs to the simulation
11 process. Is that fair?

12 A. Yes, they are.

13 Q. So you haven't used both inputs,
14 you've only used one because you've only done one run?

15 A. Yes. One run is done, and that was
16 the run off of the case that uses the IGCC as the
17 baseload station and then to -- I think the only -- to
18 make the estimation of the emissions without the --
19 with nuclear instead of with IGCC, there was just some
20 estimations were done as to what the impact would be of
21 placing that energy -- the IGCC energy with nuclear
22 energy.

23 Q. Okay. Now, the Chairman was asking
24 you about the runs in Exhibit 452. As I understand
25 them, you did 11 runs, is that fair?

1 A. There would be the six associated
2 with the update fossil nuclear and enhanced managed
3 surplus and unmanaged surplus. There were two with the
4 upper and lower. We're up to eight?

5 Q. Yes.

6 A. And three with the no approvals for
7 lower median and upper.

8 Q. Yes.

9 A. That's 11?

10 Q. Yes.

11 A. Okay.

12 Q. And what you have done with Exhibit
13 796 is instead of 11 runs with the update, you have
14 done one run with -- you've done a fossil run?

15 A. Yes. We've had an initial look with
16 the impact of the decisions from September right
17 through to December on long-term planning.

18 Q. Yes, for the one case, and you have
19 estimated another case, but you haven't done the runs
20 for that second case, that nuclear case?

21 A. That's right.

22 Q. Okay. And Mr. Dalziel, when I look
23 at Attachment J, I see the load and capacity tables. I
24 see a little bit of information on energy production
25 and a little bit of information on emissions. I assume

1 that you have considerable more input and output
2 information for the run you have done, information
3 which is similar to what you produced for the DSP, that
4 would be Interrogatory 10.9.1, and also for the Update
5 which was 10.7.12.

6 I'd assume you'd be producing that
7 information for the run that you have done?

8 A. For the run that has been done, we
9 can put together. I believe you're referring to what's
10 called Further Details on Production Simulation--

11 Q. I believe that's the --

12 A. --which was an attachment to the
13 interrogatories that you mentioned?

14 Q. Yes, that's the title of the
15 document.

16 Can I have an undertaking for that, Mr.
17 Chairman?

18 THE CHAIRMAN: Do we have an undertaking
19 number?

20 THE REGISTRAR: Undertaking number is
21 940.9.

22 ---UNDERTAKING NO. 940.9: Ontario Hydro undertakes to
23 provide information for the run that they
24 have done in reference to a document
called Further Details on Product
Simulation.

25 MR. R. WATSON: Q. Mr. Dalziel, I

1 understand that you've had to put this together in
2 short order. I would assume that you will be doing
3 further runs. You've done a fossil run. I assume
4 you're going to do a nuclear run, and I assume you are
5 going to do upper and lower runs. Is that fair?

6 MR. DALZIEL: A. I'm not aware that
7 we've made any decisions to undertake that work at this
8 time.

9 Q. So, as far as you're concerned, all
10 of the production simulation analysis and back-up for
11 796 has been done, and there's no decision to do any
12 more?

13 A. I'm not aware that we're taking any
14 decisions to do further runs at this time.

15 Q. I assume you would in the normal
16 course advise us if, in fact, those runs are done and
17 you would produce the information.

18 I assume you have no difficulty with
19 that?

20 MR. B. CAMPBELL: Mr. Chairman, we have
21 consistently taken the position where work is done that
22 is relevant to issues in front of the Panel, we have
23 produced it. We are not going to make any change in
24 that position. My friend can take it as read. Anyone
25 can take it as read. We've done it throughout. We'll

1 continue to do it.

2 MR. R. WATSON: Thank you.

3 Q. Mr. Dalziel, in Exhibit 796, Hydro
4 System Planning is still based on planning around the
5 median versus planning to the upper?

6 A. Yes.

7 Q. And 796 had no analysis of branch
8 upper or branch lower?

9 A. That's correct.

10 Q. And there was no RAM analysis done?

11 A. That's correct.

12 Q. Okay.

13 THE CHAIRMAN: And none contemplated?

14 MR. DALZIEL: No runs -- no RAM analysis
15 you mean?

16 THE CHAIRMAN: Yes.

17 MR. DALZIEL: No, there's no RAM analysis
18 contemplated.

19 MR. R. WATSON: Q. Or no analysis
20 respecting branch upper or branch lower?

21 MR. DALZIEL: A. That's correct.

22 Q. Mr. Snelson, I think this question
23 might be for you or perhaps Mr. Shalaby. On page 5 of
24 the main submission of Exhibit 796, the second bullet
25 reads: In light of reductions in system incremental

1 costs discussed in Section 10, energy management
2 programs will be re-evaluated to determine their
3 continued cost-effectiveness.

4 My client's very interested in this and
5 would like to know when this is going to occur.

6 MR. SHALABY: A. Early this year.

7 Q. And how is this evaluation or
8 re-evaluation going to be conducted?

9 A. As we explained in Panel 4, there are
10 computer models and other judgment in evaluating
11 programs and their cost-effectiveness from their
12 various perspectives. You remember the various tests
13 we put data program through. That is the kind of
14 analytical assessment that is going to be going on and
15 those results presented to the management of the branch
16 and decisions made on programming and initiatives.

17 Q. Mr. Shalaby, you mentioned tests, and
18 we're talking about re-evaluation here. Are you
19 suggesting that Hydro is going to re-evaluate the test
20 it used to screen its DSM programs?

21 A. No.

22 Q. Okay. Then I didn't follow your --
23 what you referred to when you mentioned tests.

24 A. It would re-evaluate the numerical
25 results of tests in light of changing avoided costs and

1 changing numbers associated with the programs.

2 Q. Will this apply to all of the DSM
3 programs?

4 A. Yes.

5 Q. And is it Hydro's position that if
6 some of these programs fail the re-evaluation, they
7 will be cancelled?

8 A. In all likelihood, yes. There are
9 other considerations as we always say. The numbers are
10 significant input to the decisions, but they're not the
11 only inputs.

12 Q. Mr. Shalaby or Mr. Snelson, whoever
13 wants to deal with avoided costs, I think it's well
14 understood that an essential element of Hydro's system
15 planning exercises, the calculation of avoided costs,
16 you have no difficulty with that proposition I assume?

17 MR. SNELSON: A. Avoided costs form a
18 part of our planning process, yes.

19 Q. Well, they're more than a part.
20 They're quite an important part. They're an--

21 A. They are an --

22 Q. --essential element, are they not?

23 A. They are an important part; yes.

24 Q. Now, the avoided costs in the form of
25 system incremental costs or SICs, as we call them, that

1 are provided in Exhibit 592 and Attachment D of 796,
2 they're predictions, are they are not?

3 A. Yes.

4 Q. Now, the actual avoided costs for a
5 system are calculated using an iterative or a
6 repetitive process?

7 A. I'm sorry, I don't understand the
8 distinction you're making. Any estimate of avoided
9 cost in the future is a prediction no matter what
10 method is used to generate it.

11 Q. And you use an iterative process to
12 actually calculate the avoided costs on a particular
13 system plan, do you not?

14 A. It's sometimes necessary to iterate
15 again through the calculation to achieve stability in
16 the numbers; yes.

17 Q. Well, this is not supposed to be a
18 difficult point, Mr. Snelson.

19 A. No.

20 Q. I'm simply referring you to your
21 Exhibit 3, page 6-15, where you talk about avoided
22 costs being established by a number of interactive or
23 repetitive calculations.

24 A. I believe I'm familiar with the piece
25 you're referring to, and I think we have established in

1 previous panels that the iteration takes place over a
2 relatively long time scale. There is changing data in
3 its -- that each subsequent issue of our system
4 incremental costs is another step through the
5 iteration, if you like.

6 [9:28 a.m.]

7 Q. And what I would like to do, Mr.
8 Snelson, is just find out where we are in this process,
9 if you will.

10 The first step that is mentioned in your
11 process for establishing avoided costs is to estimate
12 the avoided costs, and those estimates are what we see
13 in Exhibit 592 and its predecessors, or Exhibit 796,
14 Attachment D; is that fair?

15 A. Maybe I should just get in front of
16 me the exact figure you're referring to and then --

17 Q. Sure. It's page 615 of Exhibit 3,
18 Mr. Snelsoon.

19 A. I'm on page 6-14, is that the --

20 Q. Fifteen, 6-15, Mr. Snelson, the far
21 right column. It says that --

22 A. Yes. And that's probably the text.
23 There's also a figure over the next page --

24 Q. On 6-16?

25 A. On 6-16.

1 Q. Yes. The text on 6-15 describes the
2 figure on 6-16.

3 A. Yes.

4 Q. They are identical. You can refer to
5 whichever one you would like.

6 I just want to find out where Hydro is in
7 this process. The first step, as I said, is the
8 initial estimate of avoided costs, and you have an
9 initial estimate and those are in the form of the SICs
10 that you produced; for instance, Exhibit 592,

11 A. I think the way our process works is
12 that the previous issue of system incremental costs,
13 which in this case would be the March estimate, is the
14 initial estimate; and the latest estimate, which is the
15 November estimate, which is included in Exhibit 796 is
16 the outcome of this process.

17 Q. Well, let's take it one step at a
18 time so I don't get confused, Mr. Snelson.

19 The initial estimate is Exhibit 592? The
20 March SICs?

21 A. Yes.

22 Q. Now, the second step is to use these
23 SICs, 592, to use the potential for DSM and NUG; isn't
24 that fair?

25 A. Yes.

1 Q. And so has Hydro done that?

2 A. I believe Panel 10 discussed the
3 effect of the March SIC's on the potential for demand
4 management and NUGs.

5 Q. What we had before us in Exhibit 796,
6 is that, the estimate of DSM and NUG. Using 592? Or
7 is what we heard before the estimate, using 592?

8 A. It's -- it is based upon the
9 estimates of avoided cost that were included in the
10 March issue, which is Exhibit 592, I think, as you've
11 been referring to.

12 But it also has factored into it, in
13 addition to the --

14 Q. Sorry, Mr. Snelson, to interrupt.
15 You're saying "it", I'm not sure I understand. I'm
16 trying to distinguish Panel 10 with 796. Which are you
17 referring to?

18 A. The estimates of demand management
19 and non-utility generation in Exhibit 796 are based
20 upon the March system incremental costs, plus the
21 decision making that has been taking place with respect
22 to managing surplus and with respect to responding to
23 the rate pressures, both of which we referred to in our
24 direct evidence.

25 Q. And, Mr. Snelson, the third step is .

1 to determine the new supply plan, and when you've
2 determined your NUG and DSM, you then input major
3 supply and you then have a major supply plan. That's
4 the way it works, is it not?

5 A. Yes.

6 Q. And you have done that step in your
7 process?

8 A. The simulation that Mr. Dalziel has
9 described is the latest estimate of the demand/supply
10 plan including illustrative major supply options.

11 Q. And just so we're not confused, the
12 one run in Attachment J is Hydro's new supply plan, if
13 you will?

14 A. Yes.

15 Q. Now, the next step is to revise the
16 estimate of avoided costs, and that is done by looking
17 at this new supply plan and then coming up with an
18 estimate of avoided costs from that new supply plan.

19 Now, that step has not been done, has it?

20 A. That step has not been done.

21 It will -- there will be re-estimations
22 of system incremental costs done in due course in
23 time -- of time, which will take into account both any
24 changes to the major supply plan and also any changes
25 to other data in both terms of economic data or load

1 data that will become available in the intervening
2 period.

3 THE CHAIRMAN: Just so I understand, when
4 that is done, whenever "that" is, will that bear the
5 same relationship to Attachment D, as Attachment D now
6 bears to Exhibit 592?

7 MR. SNELSON: Yes, in that each one is a
8 update to the previous one with the latest data in all
9 respects as of the time the new calculation is done.

10 MR. B. CAMPBELL: Mr. Chairman, the
11 Board will recall that in direct, Mr. Snelson also
12 indicated the kind of changes he expected, given the
13 changes since the last set was prepared.

14 MR. R. WATSON: Q. Mr. Snelson, the next
15 step is to take this calculation of avoided costs, if
16 you will, that fall out of your new system plan and
17 then to compare it with what you started with, our
18 initial estimate of avoided costs?

19 MR. SNELSON: A. That is what is shown
20 in this figure, and if the -- if the comparison shows a
21 very large difference that would require re-evaluation,
22 then there would be a re-evaluation done. But there
23 is -- that comparison is made, yes.

24 Q. You said that is what the figure
25 shows. I mean that is Hydro's system planning policy,

1 if you will. That is their procedure; isn't that
2 correct?

3 A. I think this is a simplification of
4 the procedure because -- and I think we have been
5 through this on previous panels, that the passage of
6 time as you go through this process is such that there
7 are other changes in data and there are other decisions
8 being made through the process, and so you tend to be
9 in the situation as I've described where each issue of
10 system incremental costs is the finishing point of one
11 process and is the starting point of the next
12 iteration.

13 Q. I understand that, Mr. Snelson. I'm
14 just concerned about the fact that you didn't answer my
15 question directly when I asked you about the comparison
16 of the avoided costs that are calculated versus your
17 initial estimate.

18 Now, you will recall that in your earlier
19 panels you gave us this information, testified to the
20 fact that this was what you did, this was your process.

21 That is still your process, that hasn't
22 changed; is that correct?

23 A. That is correct.

24 Q. Now, you haven't done that comparison
25 and you haven't checked for convergence.

1 [9:36 a.m.]

2 A. That comparison has been done.

3 Q. Oh, it has been done?

4 A. The comparison between the starting
5 point, which was the--

6 Q. Exhibit 592.

7 A. --Exhibit 592, and the values given
8 in Attachment D to Exhibit 796 is included in
9 Attachment D on pages 10 and 11 where there are graphs
10 showing the comparison between the planning values of
11 Exhibit 592 and the more recent issue, and on page 11
12 is the comparison of the project appraisal values.

13 Q. Okay, Mr. Snelson. I don't want to
14 get confused. Page 10 and 11 show a comparison between
15 your predictions of system incremental costs in March
16 and your predictions of system incremental costs in
17 November.

18 A. That is correct.

19 Q. Okay. What I am talking about is
20 this iterative process which is used to determine a
21 least cost system plan, and the very specific question
22 I have for you is: Have you taken your existing system
23 plan, used your analytical techniques to calculate
24 avoided costs, and then fed that back and compared it
25 to your initial estimate and determined whether

1 convergence has occurred? And I'm suggesting to you
2 that has not occurred with the system plan that we have
3 before us.

4 MR. B. CAMPBELL: Mr. Chairman, I don't
5 know why my friend isn't listening to the answer he is
6 getting. It has been clear, I think, that they are
7 starting a process now of updating the most recent
8 issue of system incremental costs, and I think Mr.
9 Snelson in direct and several times today has indicated
10 that that has not been done. So it is not possible to
11 have gone beyond that in the very process that my
12 friend says.

13 I think it is perfectly clear on the
14 evidence; is it not?

15 MR. R. WATSON: Mr. Chairman, if it is
16 perfectly clear the answer to the question is "no" then
17 I can move on.

18 THE CHAIRMAN: Let me ask this to you,
19 Mr. Snelson. Do you adopt what Mr. Campbell has just
20 said?

21 MR. SNELSON: Yes.

22 MR. R. WATSON: Thank you, Mr. Chairman.
23 I take that as a "no" to my question and I am content
24 with that.

25 MR. B. CAMPBELL: Take it any way you

1 want.

2 THE CHAIRMAN: I mean, I am not stopping
3 you from going on. People get very sensitive about
4 these things. (Laughter)

5 MR. R. WATSON: I have very thick skin,
6 Mr. Chairman; I am not sensitive at all. Probably help
7 me if I was more sensitive.

8 MR. B. CAMPBELL: I just suggest, Mr.
9 Chairman, he ought to listen to the answers he gets.

10 MR. R. WATSON: Q. Now, Mr. Snelson, we
11 have been talking about this iterative process, and we
12 have been talking about the convergence.

13 Previously we had a discussion about
14 convergence criteria. Has Hydro changed its
15 convergence criteria at all? Is it still the same as
16 it was in the past?

17 MR. SNELSON: A. I'm not sure that we
18 gave specific convergence criteria in the past, but I
19 believe that our position with regard to this is the
20 same as it was on Panel 3 when we discussed it then.

21 Q. You are quite correct, Mr. Snelson.
22 You don't have a convergence criterion, and I just want
23 to make sure you still don't.

24 A. We are always in the situation where
25 strict convergence is not always achievable because of

1 the length of time that it takes to perform these types
2 of calculations and the underlying shifts in data that
3 take place, and so one tends to move around somewhere
4 close to convergence in each successive iteration but
5 precise convergence never occurs.

6 Q. So, Mr. Snelson, talking about the
7 plans that we have before us, these illustrative plans
8 are based on the 592 six as opposed to the 796 six?

9 A. Some of the evaluations that went
10 into the decisions in September and October and
11 throughout the year in planning for demand management
12 in NUGs have used the March '92 SICs. Clearly, the
13 November '92 SICs have not been factored into Exhibit
14 796.

15 THE CHAIRMAN: Not been factored into
16 what, I'm sorry?

17 MR. SNELSON: The November '92 SICs were
18 only issued in December, and there are -- I don't
19 believe there are any evaluations in Exhibit 796 that
20 actually used the November SICs.

21 MR. R. WATSON: Q. Mr. Snelson, this is
22 an ongoing process, as you indicate. I assume Hydro
23 will complete this iterative process we have been
24 talking about and in due course will issue the results?

25 MR. SNELSON: A. And I think Mr.

1 Campbell has already given the undertaking that these
2 are matters that, as they are updated, they are
3 normally made available to the Board.

4 Q. Mr. Snelson, you referred us to page
5 11, and you are talking there --

6 THE CHAIRMAN: 11 of what document?

7 MR. R. WATSON: Sorry, page 11 of
8 Attachment D, still talking about system incremental
9 costs.

10 Q. Referring to the cost of power, Mr.
11 Snelson, you will recall that in the past you and I and
12 perhaps Mr. Shalaby had a discussion about the worth of
13 a CTU and equating the cost of generation to the full
14 cost of a CTU. And my client is heartened to see that
15 you have changed that so that you are no longer using
16 the full cost of the CTU.

17 However, the question remains as to while
18 you are not using the full cost of the CTU there is
19 still a value there, and my client is concerned as to
20 why there should be a capacity charge used to calculate
21 avoided costs for the purposes of screening DSM
22 programs, why that should be greater than zero in any
23 year in which there is sufficient capacity available.

24 MR. SNELSON: A. The reason it has a
25 value is that the estimate is that if we had additional

1 demand management that reduced the need for capacity,
2 then costs could be reduced, and the measure used as an
3 indication of the degree to which costs could be
4 reduced is the saving in operation and maintenance
5 costs of mothballing an existing generating plant.

6 Q. But does that really help me with why
7 the value shouldn't be zero? I mean, if you don't need
8 it why should it be there?

9 A. Because the statement that you don't
10 need it is not an absolute. The statement, I think,
11 more fuller statement is that during a period of
12 surplus capacity you don't need new capacity to avoid
13 the cost of building new plant. You already have
14 sufficient existing plant.

15 Now, even if you have sufficient existing
16 plant, if you have more capacity or more capacity
17 equivalent from some other source you can always reduce
18 the amount of the existing plant that you operate, and
19 so there is always some small saving from reducing the
20 operation of existing plant.

21 Q. Well, Mr. Snelson, just one more
22 question on this.

23 What about years in which the difference
24 between your primary demand and your supply is less
25 than the forecasted amount of DSM and NUGs? Why

1 wouldn't you use an avoided cost based on the
2 proportion of NUGs and DSM required to meet the demand?

3 A. I don't understand why you would, and
4 I have already indicated why additional capacity even
5 during a period of surplus has a value. I stand by my
6 previous answer.

7 Q. I would like to ask some questions on
8 the economic ranking analysis, which is Exhibit 796,
9 attachment G.

10 Panel, I understand that DSM is evaluated
11 using the total customer cost test; is that fair?

12 MR. DALZIEL: A. Yes, it is.

13 Q. And that total customer cost test
14 provides an evaluation of the option on a societal
15 basis; is that fair?

16 A. Yes.

17 Q. And as a result, it doesn't give us
18 an indication of the savings from such a deferral on a
19 utility basis?

20 A. It includes the impact that it has on
21 the utility, but does it isolate -- I'm not sure I
22 understand.

23 Q. That's right. It doesn't isolate it.
24 It doesn't give us a figure based on the utility
25 perspective for the simple reason that it looks at it

1 from a societal perspective.

2 A. Yes.

3 Q. Now, there are other tests besides
4 the total customer cost test; for instance, the RIM
5 test, the Rate Impact Measure test. Now, that would
6 provide an evaluation on a utility basis, would it not?

7 THE CHAIRMAN: Just a moment. Isn't this
8 getting into a rehash, if I can put it that way, of
9 what we have discussed before?

10 MR. R. WATSON: Mr. Chairman, if you will
11 permit me one or two questions, in effect it does.
12 This is setting groundwork for a question dealing with
13 how DSM is handled in this economic analysis.

14 THE CHAIRMAN: All right. Well, I will
15 let you have a couple more to get to that point. I
16 think Mr. Shalaby wants to say something.

17 MR. SHALABY: The RIM test evaluates the
18 impact on the non-participating customers.

19 MR. R. WATSON: Q. And there is another
20 test that evaluates -- provides an evaluation on a
21 utility basis?

22 MR. SHALABY: A. That's correct.

23 Q. Now, Hydro actually computes values
24 for its DSM programs using a series of tests:
25 participant tests, RIM tests, utility tests, total

1 customer cost tests.

2 A. That is correct.

3 Q. We saw that in this year's Ontario
4 Energy Board case?

5 A. You were there. Yes.

6 Q. Now, as a result of this, Hydro is in
7 a situation by using the total customer cost test where
8 it can't compare the utility savings from DSM vis-a-vis
9 other options with respect to this economic analysis;
10 isn't that fair?

11 MR. B. CAMPBELL: Mr. Chairman, aren't we
12 getting right into a re-examination of all of these
13 tests that were discussed in Panel 4? How Hydro uses
14 the individual tests, the distinction and what tests
15 are used for what purposes, what tests are used for
16 screening, what tests input into program design was a
17 matter of days of testimony on Panel 4, and I think my
18 friend is getting right back into that, in my
19 submission.

20 MR. R. WATSON: Mr. Chairman, we are
21 right at the question.

22 Q. The question very simply is: If in
23 fact you are not using the right tests you can't
24 compare the options appropriately and you haven't --
25 you don't have the appropriate information for the

1 deferral.

2 MR. B. CAMPBELL: Well, with respect, Mr.
3 Chairman, what does that have to do with the Update?

4 THE CHAIRMAN: Well, what I would think,
5 and I may be wrong about this, it has to do with the
6 Update, is that ranking of options for purposes of
7 deferral is a new concept and that is introduced in
8 796, if I am right about that.

9 I guess what Mr. Watson is getting at is,
10 have they used the appropriate tests in order to do
11 that ranking?

12 MR. R. WATSON: That is exactly it, Mr.
13 Chairman.

14 Q. And I would suggest to you that that
15 little bit of background is necessary to set up the
16 point, and the point very simply is what I have just
17 suggested to you, and if the Panel would like to
18 respond to that...

19 MR. SNELSON: A. We have used the
20 ranking based on the total customer cost test, and that
21 was the basis of the economic ranking.

22 Q. The implication of that as a result
23 of the series of questions we have just gone through is
24 that DSM is not compared on the same basis as other
25 utility options, and if it was its place in the ranking

1 might be different.

2 A. Other utility options which don't
3 affect customers' costs are also evaluated on the total
4 customer cost test. It just happens that the utility
5 costs and the total customer costs are the same.

6 Q. Well, Mr. Snelson, you are saying the
7 total customer cost test gives the same result as this
8 other test. Basically, if you use the utility test on
9 the utility options and use the utility test on the DSM
10 options, you are going to get a different ranking than
11 you do in Attachment G, aren't you?

12 [9:52 a.m.]

13 A. If you use a different test, then you
14 may very well produce a different ranking.

15 Q. All right. Mr. Snelson, dealing with
16 the hydraulic options, Niagara, as I understand, has
17 now planned for 2002 and Mattagami for 1999, I
18 understand Hydro's position is that there is a benefit
19 to be obtained from deferring both of those projects
20 beyond these dates?

21 A. I think to the accuracy of these
22 calculations, both projects are in the region of having
23 either a very small benefit or a very small cost, but
24 it's due to deferral but it's not a very significant
25 item.

1 Q. My understanding, Mr. Snelson, from
2 the material before me is that both have a benefit to
3 deferral. Is there some place that indicates that
4 there's a cost to deferral of these two options?

5 MR. DALZIEL: A. In Attachment G of
6 Exhibit 796, on page 13 there's Figure 4-1, and
7 strictly using the March 1992 SICs, the Niagara project
8 was actually evaluated as having a cost, a net cost to
9 Ontario Hydro if it was deferred; but as we had, I
10 think, earlier discussed with Mr. Castrilli, there's a
11 paragraph that describes a judgment. That's on page
12 12, the last paragraph on that page, and it just is
13 explaining that knowing that SICs are coming down, that
14 if the new SIC values, such as the November values were
15 to be applied, it was judged that the Lakeview and
16 Niagara projects would likely result in a net benefit
17 if they were deferred; but I think the judgment is
18 still that it would be a small result, a small -- small
19 benefit.

20 Q. Mr. Dalziel, as I understand it,
21 there is no system requirement for either Niagara in
22 2002 or Mattagami in 1999?

23 MR. SNELSON: A. Strictly speaking in
24 terms of a narrowly defined system requirement for new
25 capacity, that is correct. Additional energy from

1 those plants is useful and has a value in terms of
2 reducing the use of other fuels, and that's one of the
3 benefits of continuing with the project.

4 Q. And, of course, Mr. Snelson, it
5 follows that the actual system need date for these
6 projects is later on in the first decade of the next
7 century?

8 A. Yes. And I believe we had that
9 discussion with Mr. Castrilli.

10 Q. Yes. And the implementation of these
11 projects actually adds to the surplus in -- when they
12 come on-line in 1999 and 2002?

13 A. It adds to the forecast surplus of
14 capacity in those years; yes.

15 Q. Okay. So system need is, therefore,
16 not an absolute requirement in Hydro system planning?

17 A. That is correct.

18 And I just qualify that as being a
19 narrowly defined capacity need. There are other needs
20 to the system.

21 Q. Oh, yes, you mentioned that the
22 energy would be useful for other purposes.

23 A. The energy would be useful.

24 Q. Yes. Okay.

25 Now, still talking about this ranking,

1 Mr. Snelson, I understand that one of the reasons, one
2 of the fundamental reasons, I guess, behind a number of
3 changes in this exhibit and, in particular, for
4 deferring options, is a concern about rates. Is that
5 fair?

6 A. Yes.

7 Q. And if we could just look briefly at
8 the rate impact of DSM; Mr. Snelson, one component of
9 the DSM rate impact is the lost revenues which result
10 from reduced sales to participants. Is that fair?

11 A. Yes.

12 Q. And this results in non-participants
13 paying a higher percentage of fixed revenue
14 requirements?

15 A. It affects the distribution of costs
16 between participants and non-participants.

17 Q. Right, with the non-participants
18 paying a higher percentage?

19 A. Any incentives for demand management
20 are paid for by all customers and benefit the customers
21 whose demand management is being assisted with the
22 demand management program.

23 Q. Right, I understand that, Mr.
24 Snelson. I'm asking you about --

25 THE CHAIRMAN: Well, first of all, I

1 think this is an issue that has been discussed before.

2 We can take it that there is an uneven impact on
3 customers by demand management programs and how that
4 would smooth out or attempted to be smoothed out was
5 all part of the Panel 4 and subsequent Panel 10
6 discussions.

7 MR. R. WATSON: Yes, sir.

8 THE CHAIRMAN: I mean, I think you can
9 take it that that's a feature, if you like, or a
10 characteristic or an issue with respect to demand
11 management.

12 MR. R. WATSON: That's fine, Mr.
13 Chairman. That's all I wanted to establish, going on
14 to that and apply it to Attachment G.

15 Q. If this feature, as the Chairman
16 said, Mr. Snelson, of the DSM rate impact was included
17 in the ranking of DSM, the result would be larger net
18 benefits for deferral of DSM programs. Isn't that
19 fair?

20 MR. SNELSON: A. I'm sorry. If we were
21 to be ranking...?

22 Q. You're ranking options right now.

23 A. Yes.

24 Q. And you put in certain -- you figure
25 out the characteristics of the options, you figure out

1 the costs, the benefits and you come up with an order.
2 Now, what I'm suggesting to you is that if you use the
3 feature that we have been discussing and you included
4 that with respect to the DSM option, that would result
5 in larger net benefits for deferral of DSM programs?

6 A. If you were ranking options in the
7 order of their impact on rates, then you would get a
8 different order, and demand management options that
9 have lost revenue would rank higher in the order of
10 options to be deferred.

11 Q. Well, doesn't this tell us that the
12 benefits of DSM deferral are understated by Hydro
13 ignoring this component?

14 A. No.

15 Q. Why do you say that?

16 A. The ranking is with respect to the
17 costs of Ontario Hydro and its customers, and that is
18 the perspective we take in our most basic economic
19 analysis of demand management and other options. And
20 on that basis, the ranking is -- our best estimate of
21 the ranking is as we've indicated. If you use a
22 different test and different criteria, then you will
23 get a different ranking, but the ranking that we've
24 used is the one that we believe is appropriate.

25 THE CHAIRMAN: Just so I'm clear, the

1 ranking that you did was based on an economic ranking?

2 MR. SNELSON: Yes.

3 THE CHAIRMAN: With the one -- and that's
4 economic from Hydro's point of view, except for the
5 demand management which was based on total customer
6 cost ranking -- or analysis?

7 MR. SNELSON: The ranking of all of the
8 options can be said to be on a total customer cost
9 basis, because for--

10 THE CHAIRMAN: Yes.

11 MR. SNELSON: --options that don't
12 require--

13 THE CHAIRMAN: All right.

14 MR. SNELSON: --the customers to spend
15 money, then it's the same--

16 THE CHAIRMAN: All right.

17 MR. SNELSON: --from the utility.

18 THE CHAIRMAN: I understand that.

19 And what you have just said, I want to
20 make sure I understand it, that if you were ranking
21 deferrals on the basis of the impact on rates, there
22 would be a different ranking?

23 MR. SNELSON: That is correct.

24 THE CHAIRMAN: Okay.

25 MR. R. WATSON: Q. Mr. Burke, we haven't

1 asked you any questions yet.

2 MR. BURKE: A. That's fine. (Laughter)

3 Q. On page 2 of the main exhibit, you
4 indicate that the process of adjusting to this forecast
5 is not complete and further changes may be made.

6 Could you expand on that statement? What
7 do you mean when you say the process of adjusting the
8 forecast --

9 A. I'm not sure which page 2 you're --

10 Q. Page 2 of the main submission.

11 A. The main submission?

12 Q. The bottom line.

13 A. Yes. I make the forecasts. Most of
14 the adjustment to it is done by other people.

15 Q. Okay.

16 A. So you may want to address that
17 question to someone else. (Laughter)

18 Q. Don't worry, Mr. Burke, I still have
19 further questions for you. I'll be back.

20 Mr. Snelson?

21 MR. SNELSON: A. The December load
22 forecast made some changes. Two or three decisions
23 were made at the December board meeting bearing that
24 load forecast in mind. And the decisions I refer to
25 are the cancellation of the Manitoba purchase, the

1 decision to mothball an additional two units at
2 Lakeview and the decision to put --

3 THE CHAIRMAN: Is that mothball or
4 retire? Which is it?

5 MR. SNELSON: At this time it is that
6 they have been taken out of service. I was perhaps a
7 little loose. I don't think a final determination of
8 whether it's mothballing or retirement has been made,
9 but they will be taken out of service on the dates
10 indicated.

11 And the third decision made was to put a
12 hold on non-utility generation, and there are -- we
13 have indicated in our evidence that there is still a
14 significant surplus capacity even following those
15 decisions, and there are continuing management actions
16 to respond to surplus, to respond to the need to
17 further hold the line on electricity rates; and those
18 management decisions are continuing and management
19 processes are continuing.

20 MR. R. WATSON: Q. To conclude the
21 sentence, further changes may be made, can you give us
22 some idea of what Hydro's contemplating in that regard?

23 MR. SNELSON: A. I think the simple
24 answer is that there are no constraints on what is
25 being considered other than we're aiming to achieve

1 lower rates for our customers; we're aiming to achieve
2 energy efficiency and sustainability of objectives, but
3 those changes may affect any components of our plan.

4 Q. And can you give us some estimate as
5 to when this process will be complete?

6 A. The glib answer is never in that
7 change is always being contemplated, but there are --
8 that is, there are processes set in place which achieve
9 certain milestones, so there has to be a submission to
10 the Energy Board, and so there would be some decisions
11 may be made before that.

12 Q. So --

13 A. You may be aware that the Chair,
14 Chairman of Ontario Hydro has set up a task force to
15 look at change, which I believe he has given a 60-day
16 time period to, so there will be changes in the
17 relatively near term, and then there will be changes
18 that will be considered over a longer time period. I
19 can't give you a specific answer.

20 [10:08 a.m.]

21 Q. Mr. Snelson, before we continue on
22 with the load forecast, if you could turn to page 15 of
23 your Exhibit 937, that is your overheads, it shows the
24 capacity surplus. It is also in that Figure 10.1 of
25 the main submission.

1 Mr. Snelson, I'm just looking at the
2 bullets at the bottom, the second one says the
3 decision -- the graph does not reflect the December
4 decision to mothball the two Lakeview units. So if, in
5 fact, this graph was adjusted, it would be brought down
6 by possibly 570, 580 megawatts; is that fair? The
7 capacity of the two Lakeview units.

8 MR. DALZIEL: A. Yes, that's right.

9 Q. And the second bullet says: It's
10 based on the December load forecast with generation as
11 per the October board memo but without Manitoba
12 purchase.

13 So does that mean that if Manitoba was
14 included, there would be an extra thousand megawatts
15 added to this graph?

16 MR. SNELSON: A. In the years that the
17 Manitoba purchase would have been there, yes.

18 Q. Yes. Thank you.

19 Now, Mr. Burke, as promised, if you could
20 turn to Attachment C. There are two pages I would like
21 you to look at. One is page 104, and you will see that
22 there is a heading on page 104 called "Own Generation",
23 do you see that?

24 MR. BURKE: A. In Table 4.4.2?

25 Q. Yes.

1 A. Yes.

2 Q. And if you could then turn to page 4,
3 and Table 1.1.1?

4 A. Yes.

5 Q. This table does not include the own
6 generation from page 104; is that correct?

7 A. No, that's not correct.

8 Q. Would you explain how it is included?

9 A. Well, all of the basic load forecasts
10 are a net of -- are already adjusted for own
11 generation.

12 What you're looking at in Table 4.4.2 is
13 the way the econometric models basic load forecast is
14 derived from the forecast it prepares of total
15 provincial demand for electricity, and so what is on
16 the very right-hand column, the EEMO basic energy is in
17 the form of a basic load forecast; that is, back at the
18 generator, not at the customer level.

19 All of the forecasts in Table 1.1.1 are
20 basic load forecasts and have the property that they're
21 at the generator. The numbers given there are the
22 recommended forecasts as opposed to the EEMO forecast,
23 for instance.

24 There is a section of the document that
25 shows how the recommended load forecasts is derived,

1 using as inputs for consideration the basic -- sorry,
2 basic forecast from the econometric and the end-use
3 models. I guess you'll find that on page 24.

4 So the numbers that are in Table 4.4.2
5 for EEMO basic, show up in Table 1.3.2.1 as the EEMO
6 contribution to basic. But that's only one of the
7 forecasts that lead to the recommended basic, and it's
8 the recommended basic that is in Table 1.1.1.

9 But it's all basic and, by definition, at
10 the generator - Hydro's generator.

11 Q. Now, Mr. Burke, on page 106, there's
12 an equation at the top of the page--

13 A. Yes.

14 Q. --and that equation includes a
15 variable D75--

16 A. Yes.

17 Q. --which you identify as a dummy
18 variable for 1975.

19 What is that dummy variable? What is its
20 purpose? My consultant is very interested in finding
21 out about D75.

22 THE CHAIRMAN: These are the kind of
23 questions that I would suspect that your consultant has
24 asked you to asked, although I may be wrong about that,
25 and I wonder if that could be done in a less formal way

1 through interrogatories or something of that nature?

2 MR. R. WATSON: Mr. Chairman, I can help
3 you with that. I have asked Hydro close to a hundred
4 interrogatories. What I have done is asked my
5 consultants to provide the absolute essential
6 interrogatories that they need answered as soon as
7 possible, and I have prepared a list of those and I am
8 going to give them to the panel when I finish my
9 cross-examination.

10 There are one or two simple questions - I
11 am hoping this is a simple question - that I was hoping
12 I could ask right away. This is a question that my
13 consultants feel is important, they need the answer to.

14 THE CHAIRMAN: Go ahead.

15 MR. BURKE: I will give you a quick
16 answer. I will assume you know what a dummy variable
17 is, and, essentially, in the analysis of this equation,
18 there was a residual for the year 1975, which was a
19 recession year in Ontario, and so the effect of that
20 was handled by inclusion of the variable which is zero
21 in all years except 1975, and one in 1975.

22 MR. R. WATSON: Q. So the value is
23 simply "one"?

24 MR. BURKE: A. In 1975. That's the
25 value of the variable. And the reason it was included

1 was because that was a recession year in Ontario and
2 presumably a reason for why output from industrial
3 generators went down, other than for the reasons in the
4 rest of the equation.

5 Q. Mr. Burke, on page 3 of your load
6 forecast in the second paragraph, the last sentence
7 reads:

8 A 10 per cent increase in electricity
9 prices in Ontario reduces basic load
10 about 4 per cent in the long run, with
11 about half the effect occurring within
12 10 years of the price change.

13 Over what period is the full impact realized?

14 A. Well, this is all in an interrogatory
15 response that was produced for Panel 1. Briefly,
16 though, 20 years out I believe 90 per cent of the
17 effect occurs and this is something that decays ad
18 infinitum, so that...

19 Q. Could you give me that interrogatory
20 number, please, Mr. Burke?

21 A. I will have to look that up, but I
22 can find it for you. It may even have been to
23 yourselves, I'm not sure. I'll have to check.

24 Q. It may have been.

25 Mr. Burke, looking at that word "half", I

1 assume that's not an absolute word, could it be a
2 two-thirds or three-quarters?

3 A. Well, it's based on empirical
4 results. I mean, it is what happens when you simulate
5 the model with the price change.

6 Q. But it's not an absolute number, is
7 it? I mean, there's some discussion in the profession,
8 is there not, about the effects of delay with time?

9 A. Any variation would depend on having
10 a different empirical estimate for the elasticity of
11 price with respect to electricity demand.

12 Given the formulation of the models that
13 we have, there is a unique answer to the question. If
14 you change the models, you get a different answer.

15 There may be discussion in the profession
16 about having different models or coming up with
17 different elasticities, but given the model we have or
18 the elasticities we have presented to this Board, this
19 is the unique answer to that.

20 Q. When you say the unique answer, I
21 mean you used the word "half", you didn't use 50 per
22 cent.

23 A. Okay. The interrogatory response --

24 MR. B. CAMPBELL: I sort of thought that
25 is what half meant.

1 MR. BURKE: Yes. But interrogatory
2 response gives the exact number.

3 MR. R. WATSON: Q. Now, Mr. Burke, we've
4 been talking about the time it takes a price change in
5 electricity to be felt. What about the period over
6 which a change in natural gas prices influence
7 electricity demand?

8 THE CHAIRMAN: I just cannot strictly
9 recall, but isn't this a matter we have discussed in
10 earlier times?

11 The effect of natural gas prices have
12 certainly been a discussion on several times.

13 MR. R. WATSON: I don't know the answer
14 to your question, Mr. Chairman. I don't know whether
15 this issue was discussed in the past.

16 THE CHAIRMAN: I know it was discussed.
17 Whether the precise question that you have asked was
18 asked, asked and answered, I could not lead you to it,
19 but surely it must be somewhere in the evidence.

20 Why we are here, as Mr. Campbell keeps
21 reminding us, is to see what has been changed in the
22 approach of the forecasters to natural gas prices, if
23 any, since the last forecast.

24 MR. R. WATSON: And there has been a
25 substantial change in gas prices, Mr. Chairman, and I

1 would suggest to you that that is significant for this
2 exhibit. And my client is quite interested in finding
3 out how the change in gas prices affects the
4 electricity prices.

5 THE CHAIRMAN: Didn't Mr. Burke testify
6 about that when he gave his opening on 796? Hasn't
7 there been quite a bit of discussion about that?
8 I mean, it is a very open-ended question that you have
9 asked.

10 MR. R. WATSON: Well, no, I was asking a
11 very precise question, Mr. Chairman. We have talked
12 about a period of 10 years for electricity prices in
13 which there is an effect of roughly, of approximately
14 50 per cent.

15 My question is: Looking at the
16 interaction between gas prices and electricity prices,
17 over what period -- what is the period over which a
18 change in natural gas prices influences electricity
19 demand? It is a very specific question referring
20 exactly to what is at page 3 of Exhibit 796, Attachment
21 C.

22 THE CHAIRMAN: But didn't Mr. Burke talk
23 about this and talk about the time in which customers
24 do switching and so on? Isn't that all part of his
25 evidence on that?

1 MR. R. WATSON: No, I think Mr. Burke
2 mentioned that Hydro has recognized the price --
3 Hydro's customers have recognized the price
4 differential, they have recognized the stability of
5 that price differential and this latest end-use
6 forecast has now picked it up.

7 My question is again very precise: Over
8 what period -- what's the period over which a change in
9 natural gas prices influences electricity demand?

10 Q. Now, is it the 10 years that have
11 been mentioned here for electricity prices, is it the
12 same, Mr. Burke?

13 MR. BURKE: A. No, it's not the same.

14 The results quoted on that page in
15 general were supposed to be helpful to people trying to
16 interpret the changes in the assumptions of the
17 forecasts over the years. But as you've just pointed
18 out, in analyzing the fuel switching, we did not use
19 the econometric model, we used the end-use results, and
20 I did describe those results; and the pace at which
21 the fuel switching occurs in response to the price
22 differential is in the end-use model and is not an
23 econometrically-derived result.

24 The evidence on Panel 1 was that there
25 was on net in total, so no cross-price effect in the

1 econometric model that we had substitution in the
2 residential sector, no significant result in the
3 commercial sector, and, actually, complementarity in
4 the industrial sector econometrically.

5 But, as you have just observed, we did
6 not use the econometric results to handle the question
7 of cross-price effects, and I in fact explained in my
8 direct evidence that -- I guess I explained indirectly,
9 because we did not have empirically a good estimate of
10 the cross-price effect econometrically; that we seemed
11 to be having behaviour in the last two or three years
12 that represented a change from previous behaviour and
13 we have tried to analyze that and project it in the
14 end-use modelling system, but we're not doing it with
15 econometric results because the past experience has
16 been that there hasn't been a lot of fuel switching in
17 response to price differentials previously.

18 Q. If you could turn to page 21, Mr.
19 Burke. You are talking there about the end-use models
20 being calibrated to the Statscan energy data. What
21 exactly do you mean by calibrated?

22 A. The calibration process is, I think,
23 also discussed in Panel 1, but it is the process by
24 which --

25 Q. I don't want you to go over it, Mr.

1 Burke. I want to save Mr. Campbell some exercise.

2 I mean, is it the same process?

3 A. Of calibration?

4 Q. Yes.

5 A. The process is the same, yes.

6 Q. So it is the same as you testified to
7 in Panel 1, there has been no change in that process?

8 [10:25 a.m.]

9 A. No, the data is different, but the
10 process is the same.

11 Q. No, that's fine. You then go on to
12 say that models make use of survey data from Ontario
13 and other jurisdictions. Are your models dependent on
14 data from other jurisdictions to the same extent as
15 they were in Panel 1? Has Hydro changed anything since
16 Panel 1?

17 A. The end use models have changed,
18 especially for the residential sector and the
19 commercial sector, have changed significantly since the
20 Panel, and they have improved, and they -- I guess it
21 is fair to say that the data set collected by
22 Statistics Canada is probably no richer than it was
23 before, and the incremental data we are using is either
24 our own - that is, collected by Ontario Hydro through
25 various survey instruments - or takes advantage of

1 results derived from other jurisdictions and sort of
2 analysis as to how appropriate those results are for
3 Ontario.

4 Q. Now, Mr. Burke, you mentioned that
5 there had been significant changes in the end use
6 models. Are all of these changes included in
7 Attachment C?

8 A. Attachment C contains the results of
9 the end use forecast for each of the sectors.

10 Q. Does it report on the changes to the
11 models?

12 A. The model reports -- sorry, the text
13 for chapter 3 reports on changes to the modelling
14 procedures, not in great detail but it does indicate,
15 for instance, that we are using a different version of
16 the REEPs model than they were using two years ago -
17 all of that is contained in chapter 3 - and that we
18 have supplemented the COMMEND model with some specific
19 analysis. That is reported there.

20 In the documents forthcoming we will
21 describe the end use results in even more detail than
22 is here, and so the nature of those changes will become
23 more apparent.

24 Q. When you say 'documents that are
25 forthcoming', which documents are those and when do you

1 expect them?

2 A. I have already given an undertaking
3 to supply the documents that are promised.

4 Q. Those are the ones that you included
5 in your undertaking?

6 A. Yes.

7 Q. Okay. And will those documents
8 include specifically the reliance that you make on data
9 from other jurisdictions?

10 A. I'm not sure that that is the way we
11 normally characterize our results.

12 When you are looking to find estimates of
13 the electricity use per square foot of a certain kind
14 of building you look to our own data, you look to other
15 jurisdictions' data.

16 I'm not sure that we would naturally
17 point out all of that sort of information in presenting
18 the number we actually used for electricity per square
19 foot of that kind of building. I don't expect that the
20 documents will go into that detail.

21 There are a couple of -- well, there is
22 one specific case I can think of where we will be
23 referring to a study done for commercial heating,
24 ventilation and air conditioning systems for us by
25 external consultants which was based on Bonneville

1 Power data and the transferability of that data to our
2 system. That study is referred to, I believe, in
3 chapter 3 of this report, and we will discuss that in
4 more detail in the documentation.

5 But otherwise, I don't think we would
6 particularly point out where all of the different
7 pieces of data came from.

8 Q. Would you indicate that specific end
9 uses had made use of data from other jurisdictions?

10 A. As I say, I don't think we would --
11 we use data from various sources. Unless there is a
12 specific case like the one I am mentioning where we
13 deliberately studied the data from another jurisdiction
14 to supplement our own, I'm not sure we would go out of
15 our way to point out which data points depend to what
16 extent on data from outside our own jurisdiction.

17 Q. Now, either Mr. Burke or Mr. Snelson,
18 in looking at the comparison between avoided costs and
19 rates, is it fair to say that avoided costs are below
20 rates over the planning horizon?

21 MR. SNELSON: A. They certainly are in
22 the period of capacity surplus. I haven't made that
23 comparison, so I couldn't comment beyond that.

24 Q. Mr. Snelson, could you make that
25 comparison and produce it over the planning period?

1 A. I think you have sufficient data to
2 do that comparison. Your avoided costs are in
3 Attachment D, and I believe there are rate projections
4 in the Energy Price Trends report, which is Attachment
5 E to Exhibit 796. You have all the data to do that
6 comparison.

7 Q. Okay, Mr. Snelson. If it is right
8 there in front of us I assume it wouldn't be difficult
9 for you to have one of your employees put together that
10 information?

11 MR. B. CAMPBELL: Well, Mr. Chairman, the
12 information consists of a set of stream of 20 numbers
13 and another stream of 20 numbers or 25 numbers, however
14 many years my friend wants to take it. I think we are
15 not going to volunteer to do everybody's homework for
16 them.

17 MR. R. WATSON: Q. Mr. Snelson, could
18 you just tell me what table it is in Attachment D that
19 you are referring to?

20 MR. SNELSON: A. Well, I don't know what
21 class of customers' rates that you would be interested
22 in making the comparison with respect to.

23 Q. Well, let's just assume the three
24 customers, three customer classes, Mr. Snelson.

25 A. I'm looking at Attachment E, which is

1 the Energy Price Trends report.

2 Q. Yes?

3 A. And there appears to be a fairly
4 comprehensive projection of electricity rates for a
5 variety of classes of customers, which is in escalated
6 dollars on page 35 and in constant or real dollars on
7 page 36.

8 Q. Mr. Campbell is indicating we can
9 just take 20 numbers from this and compare it to 20
10 numbers on Attachment D.

11 Now, which 20 numbers in Attachment D do
12 we compare these numbers to, Mr. Snelson?

13 A. I don't know what purpose you want to
14 use the comparison, so I am not sure why the comparison
15 is significant. So unless I knew what it was for I
16 couldn't give you that advice.

17 Q. Just to see which one is higher, Mr.
18 Snelson. Are avoided costs higher than rates? That
19 is --

20 A. There are rates for wholesale
21 customers, there are rates for retail customers, there
22 are rates for industrial customers. There is avoided
23 costs at 10 per cent capacity factor for peaking
24 options, there are avoided costs at 80 per cent
25 capacity factor for baseload options. I don't know

1 what comparison you want.

2 Q. Exactly. So it is not simply taking
3 20 numbers and comparing them to 20 numbers, is it? I
4 mean, there aren't 20 numbers in Attachment D to
5 compare this to, are there? You have got power numbers
6 and energy numbers --

7 THE CHAIRMAN: I think the position of
8 Ontario Hydro is that the information is there, that it
9 is capable of being analysed without any further input,
10 and they are not prepared to volunteer to do any
11 further work, and I wonder why I should order them to
12 do that. I mean, if they want to do it they can, but
13 why should they be asked to do it?

14 MR. R. WATSON: Mr. Chairman, why don't
15 we leave it at this.

16 Why don't I talk to our consultants, see
17 if in fact it is as simple as Hydro has indicated. If
18 in fact it is, that's fine. We will do the work.

19 I'm concerned it is not quite that
20 simple. If it is not, then I will talk to Mr.
21 Campbell. If we can't resolve it we will come back
22 before you. Is that fine?

23 THE CHAIRMAN: Fine.

24 MR. B. CAMPBELL: That's fine, Mr,
25 Chairman. My friend -- I would just point out that --

1 well, nevermind. Nevermind.

2 MR. SHALABY: Tell your consultant that
3 we said, it is elementary, dear Watson. [Laughter]

4 MR. R. WATSON: I suppose the next
5 question, Mr. Chairman, should be: How long has the
6 Hydro Panel been wanting to ask that question, making
7 that saying. [Laughter] I commend them on their
8 restraint to date.

9 Q. Mr. Snelson, if we could turn to a
10 discussion of the NUG issues.

11 Now, you are aware that Hydro's recent
12 policy is that there is a hold on all NUGs, and you
13 indicated that is for approximately two months.

14 Prior to this Hydro was accepting
15 projects below 5 megawatts but they were still dealing
16 with their committed projects and their projects that
17 are under negotiation.

18 Now, what my client is interested in is
19 whether Hydro has the same obligation to projects under
20 negotiation as it does to committed projects.

21 THE CHAIRMAN: And by 'obligation' you
22 mean 'legal obligation'?

23 MR. R. WATSON: That's right part of it,
24 Mr. Chairman. I just want to know whether Hydro makes
25 any distinction between projects that are under

1 negotiation and those that are committed, especially
2 for their system planning purposes.

3 THE CHAIRMAN: All right.

4 MR. SNELSON: Well, I couldn't comment on
5 our legal obligations. That would be for somebody with
6 a legal background to comment on.

7 From a general common sense point of view
8 then there is an escalation of commitment from a
9 project which you haven't asked for and has not yet
10 been submitted to which you have no commitment
11 whatsoever through to perhaps after a call for
12 proposals and you have asked for some projects to be
13 submitted and then you have some that are received, and
14 as you go through the process of negotiating and
15 firming up projects that eventually ends up with
16 contracts and Order in Council and facilities built.
17 Then there is, in a practical sense, there is an
18 escalating commitment through that process.

19 MR. R. WATSON: Q. And you would treat
20 them differently from a system planning perspective?

21 MR. SNELSON: A. You may do.

22 Q. Do you?

23 A. Well, clearly, at the present point
24 in time a project that has not yet been proposed to us
25 we are not accepting and a project that is committed

1 and under construction and built, we are buying the
2 power.

3 So, yes, we are treating them differently
4 from both planning and operating points of view.

5 Q. Now, Mr. Snelson, I assume that at
6 least part of the reason for the hold, if not the main
7 reason for the hold, is to determine if projects under
8 negotiation but not committed should be developed if
9 there is a surplus.

10 A. We are certainly looking at the
11 projects that are on hold with a view to seeing how
12 those projects can be modified to address the issue of
13 surplus and to reduce rate impact.

14 Q. So it is surplus and rates?

15 A. Yes. I think the primary driver is
16 rates, but clearly, buying something you don't need in
17 a capacity sense and paying a high price for it is
18 something that adds to surplus and thereby adds to
19 rates.

20 Q. Mr. Snelson, the NUG forecast in 796
21 of purchased NUGs is 2,384 megawatts by the year 2000.
22 I assume this forecast is based on a managed type of
23 philosophy; is that fair?

24 A. This forecast, as I said in my direct
25 evidence, is based on the situation following the

1 October board meeting where projects which were in the
2 advanced stage of negotiation were continuing and that
3 apart from those projects the only other projects
4 included in this forecast is an allowance for new
5 projects under five megawatts.

6 Q. Does Hydro consider that a managed
7 situation as opposed to an unmanaged situation?

8 A. It is a move in the direction of a
9 managed situation, yes.

10 Q. So from a system planner, you
11 wouldn't consider that a full management case but it is
12 a partial management case?

13 A. I'm not quite sure what your
14 definition is of a 'full managed case'. There have
15 been actions taken in the direction of managing surplus
16 included in this forecast and there are further actions
17 which may come about as a result of the hold that was
18 taken in December.

19 Q. Mr. Snelson, the amount of NUGs is
20 2,384 megawatts. In the DSP Update you put forth a
21 managed case for NUGs as well which was less than this
22 amount.

23 Can you tell me why this forecast is
24 higher than the managed forecast in the DSP Update? Is
25 it mainly because of the gas prices, or is there some

1 other reason?

2 A. I think there were some fairly coarse
3 assumptions made at the time of preparing the DSP
4 Update of the degree to which the non-utility
5 generation would be managed.

6 The policies that came out through -- at
7 around that time was to continue with the projects that
8 had status to negotiate, and we have told you about
9 that, and to otherwise only accept projects less than
10 five megawatts or renewable projects over five
11 megawatts, and that was into October.

12 And the result of that degree of
13 management -- and if you recall there was also
14 discussions with the projects under negotiation to try
15 and encourage them to perhaps reduce their capacity to
16 more closely match the heat requirements. I believe
17 that has all been previously discussed. But the result
18 of that process was the 2,384 rather than the number
19 that was given in the Update.

20 So the Update was a forecast of, and
21 perhaps a rather optimistic forecast, of the degree to
22 which those actions would manage the non-utility
23 generation program. Carrying through has not resulted
24 in that degree of management.

25 MR. R. WATSON: Mr. Chairman, this might

1 be an appropriate place to break.

2 THE CHAIRMAN: We will break for 15
3 minutes.

4 THE REGISTRAR: Please come to order.
5 This hearing will recess for 15 minutes.

6 ---Recess at 10:44 a.m.

7 ---On resuming at 11:05 a.m.

8 THE REGISTRAR: Please come to order.
9 The hearing is again in session.

10 Please come to order.

11 MR. B. CAMPBELL: Mr. Chairman, with your
12 indulgence, there are just two brief matters. I've
13 asked my friend if it would be fine to deal with; one
14 is we have prepared a list of sources used in preparing
15 the Panel 11 overheads, as I had indicated we would,
16 and I guess my suggestion would be if it could just be
17 added to 937, then it would be together with it as
18 opposed to giving it a new exhibit number. And I've
19 provided copies, and there are additional copies here
20 that people can pick up in due course.

21 The second matter - if that's
22 satisfactory - the second matter is --

23 THE CHAIRMAN: That will be the way it
24 will be done. This list entitled, "Sources Used in
25 Panel 11 Overheads," will be just attached to Exhibit

1 937.

2 MR. B. CAMPBELL: All right. And I
3 understand Mr. Burke had an undertaking outstanding
4 from yesterday that he's prepared to deal with; and
5 perhaps if we could just knock that off, that would be
6 convenient.

7 MR. BURKE: Mr. Shepherd asked me to
8 explain the third point on page 127 about why the
9 bandwidth was narrower this time than last time, and
10 this point refers to the stage in the procedure for
11 calculating the bandwidth which is described in Exhibit
12 10 that involves adjusting from the forecast provided
13 by the single equation model to the median -- to the
14 recommended forecast that is chosen using our large
15 scale forecasting models.

16 And as it turned out, this time the
17 recommended forecast laid below the forecast of the
18 equation used to generate the bandwidth, and so there
19 was a downscaling required, and the procedure that we
20 used to do that is to apply the percentage bandwidth
21 obtained for the equation to the recommended forecast,
22 and that's what's referred to in .3. The critical
23 aspect of that is that the recommended forecast came in
24 below the median forecast of the equation.

25 MR. B. CAMPBELL: Thank you, Mr.

1 Chairman. And that was -- I think the number for that
2 undertaking was 940.8.

3 THE CHAIRMAN: All right. Mr. Watson?

4 MR. R. WATSON: Thank you, Mr. Chairman.

5 Q. Panel, we're still dealing with the
6 NUG question. You've produced a forecast on Attachment
7 F through to the year 2000. I can't see anything in
8 796 which tells me how that forecast was developed.

9 I'd like to ask you a series of questions
10 as to how that was developed. Let me start by saying
11 is there a document anywhere which describes how this
12 was developed, something similar to, say, the 1990 NUG
13 plan, Exhibit 83?

14 MR. SNELSON: A. No, there isn't a
15 document.

16 Q. Thank you. Did you use any
17 econometric or other forecasting models to develop a
18 forecast?

19 A. No.

20 Q. Was the approach taken similar to the
21 approach in Exhibit 83?

22 A. The approach was similar to the early
23 years of that forecast but not to the full 25-year
24 forecast.

25 Q. We're just dealing with the forecast

1 up to the year 2000. Let's call that the short-term
2 forecast.

3 A. Yes.

4 Q. So the approach in the short-term
5 forecast was similar to the short-term approach in
6 Exhibit 83?

7 A. Yes. With the qualification that the
8 short term would have applied to a shorter period
9 probably in Exhibit 83.

10 Q. Yes, sir.

11 A. Let me -- this is a forecast which
12 has two components to it, which is what we expect to
13 get from the projects that are currently under
14 negotiation and -- or committed, so it is a forecast of
15 that, plus a forecast of what will be achieved by the
16 less than 5 megawatt non-utility generation proposals
17 that were still being accepted as of October. And the
18 under 5 megawatts contributes the 25 megawatts per year
19 which is shown from '97 to the year 2000; and apart
20 from the under 5 megawatts, this is an estimate of what
21 the projects that are under negotiation and prior to
22 the hold would achieve.

23 Q. So basically -- we have committed
24 under negotiation of less than 5 megawatts making up
25 the forecast?

1 A. Essentially, yes.

2 Q. And the under 5 megawatts is 25 per
3 year. I assume that's just a judgment call on Hydro's
4 part. They've just picked -- they've just used their
5 judgment to estimate 25 per year?

6 A. Twenty-five megawatts a year, yes.

7 Q. And so outside of the committed and
8 under negotiation, there's no new major supply NUG
9 included in the forecast?

10 A. That's correct.

11 Q. And no over-sized cogen?

12 A. Outside of the ones that are
13 committed or under negotiation, that's correct.

14 Q. Now, Mr. Snelson, we know there are a
15 number of important assumptions that go into a NUG
16 forecast assumption with respect to gas prices, avoided
17 costs, rate of return, preference adders, transmission
18 credits, things like that. Are they the same
19 assumptions that were used in Exhibit 83?

20 A. I'm not sure that those assumptions
21 affect the forecasting of what will be achieved from
22 the projects that are committed and are under
23 negotiation. That's more a question of what is the
24 nature of those projects, what is the time scale that
25 they're expected to come in on and the probability of

1 them proceeding; so the factors you mentioned are more
2 appropriate for longer term forecasting amounts.

3 Q. And I assume similarly the existing
4 steam host sites would be more appropriate to a
5 long-term discussion than a short-term discussion?

6 A. Yes. Some of the existing steam
7 hosts will be in this forecast because there will have
8 been projects proposed for them, but generally the
9 analysis by what is the opportunity for cogeneration
10 affects the long-term forecast.

11 Q. In looking at these three categories
12 of committed under negotiation of less than 5
13 megawatts, were constraints on the transmission system
14 considered and will they be considered?

15 A. I don't think there's any change in
16 that respect from the evidence of Panels 5 and 7.

17 Q. Okay. Mr. Snelson, we had before us
18 a short-term forecast, as we have been calling it, up
19 to the year 2000; the long-term number for Hydro is
20 4200 megawatts in the year 2014. There hasn't been any
21 change in that, has there?

22 MR. DALZIEL: A. No change.

23 Q. Okay. Now, again, Exhibit 796 didn't
24 provide any detailed information on where that number
25 came from. Is this number, 4200, is that a forecast or

1 a target?

2 A. I think the number 4200 had been
3 current and discussed at the time of Panel 10, so
4 there's no change from the discussion considering that
5 number at the time of Panel 10.

6 Q. So all of the factors that went into
7 the development of the 4200 figure in your previous
8 evidence still apply today?

9 A. They're still underlying that number;
10 yes.

11 Q. Okay. And, Mr. Snelson, just to
12 finish this point, taking you back to what we were
13 discussing about the short-term forecast, I mentioned
14 things such as gas prices, avoided costs, rate of
15 return, preference adders, transmission credits,
16 capital costs, all of those factors that were discussed
17 before are still applicable today with respect to that
18 4200 number?

19 MR. SNELSON: A. Yes.

20 Q. In looking at the 4200 number, Mr.
21 Snelson, you'd agree with me that gas prices are an
22 important input into the long-term NUG forecast?

23 A. Yes.

24 Q. And we know from Mr. Burke's evidence
25 that gas prices have changed. My simple question is:

1 Why is the NUG forecast the same if gas prices have
2 changed?

3 A. We haven't re-evaluated a long-term
4 non-utility generation forecast. I did say in my
5 direct evidence that the lower forecast of natural gas
6 prices gave us a greater degree of confidence in NUGs
7 over the longer term.

8 Q. Mr. Snelson, taking up that point,
9 the confidence you have in NUG availability in the long
10 term, after the year 2000, does Hydro have any policy
11 on how it is going to acquire or solicit new NUG
12 projects? Right now we have committed, or under
13 negotiation with things on your doorstep, but is there
14 any policy decision on how this is going to be done?

15 A. I believe the general policies on the
16 acquisition of NUGs were discussed by Mr. Vyrostko on
17 Panel 5, and I don't believe there's been any
18 significant change.

19 Q. Mr. Burke, if you could turn to page
20 4 of Attachment C.

21 I'm sorry. Page 4 of the main
22 submission.

23 MR. BURKE: A. I'm there, but Mr.
24 Shalaby should be there as well.

25 Q. Okay. About three-quarters of the

1 way down the page, the second dot, the paragraph reads:

2 A significant portion of the energy
3 management potential is now expected to
4 be achieved with greater reliance on
5 codes, standards and information-driven
6 fuel switching with less emphasis on
7 financial incentives.

8 Now, if you keep your finger there, please, Mr. Burke,
9 and just turn the page over to page 7, under the
10 heading Demand Management, you'll see the second bullet
11 starting with the words "In addition," and then
12 underneath that there's a subparagraph that starts,
13 "The factors," and then there are a series of dashes;
14 and I would like to refer you to the fourth dash. It
15 reads:

16 No further standards beyond those
17 considered in the basic load forecast
18 were built into the EEI potential. This
19 lowers the total impact of standards in
20 the year 2000.

21 My concern, Mr. Burke, is I think I may be misreading
22 what is here, because what is on page 4 seems to
23 indicate to me that we're looking at more standards and
24 more impact of standards; yet on page 7, it seems to
25 indicate that there will be a lower impact of

1 standards.

2 Could you reconcile that for me?

3 MR. SHALABY: A. Yes, on page 4, greater
4 reliance really qualifies three things; it describes
5 greater reliance on three things: codes, standards and
6 market driven or information driven fuel switching. So
7 when you add these three things, we're relying heavily
8 on the combination of these three.

9 The second statement isolates only the
10 standards and where they lie in the load forecasting
11 scheme, whether it's in the basic or the standard and
12 so on -- or the primary, I mean.

13 Now, by far, the biggest change is the
14 reliance of the market-driven fuel switching; that
15 dominates the picture in this sentence here.

16 Q. Mr. Shalaby, I guess, staying with
17 you, if you could look at page 5, the fourth and fifth
18 bullets, if you could just take a minute to read those,
19 please. The fourth one starts with, "Customers are
20 facing," and the fifth one starts with "Hydro's energy
21 management."

22 A. Yes.

23 Q. And, Mr. Shalaby, following up on
24 what you said in answer to my last question that there
25 is now a bigger reliance on market-driven fuel

1 switching, these paragraphs seem to indicate to me that
2 compared to the update, this plan is closer to a
3 market-driven plan; is that fair?

4 A. In the area of fuel switching,
5 certainly so; yes.

6 Q. So --

7 A. I mean, if we can move other programs
8 to being market driven in other areas, that would be
9 successful, too.

10 Q. Basically what this is telling us is
11 that Hydro is now recognizing that customers are more
12 likely to buy into energy management programs now that
13 they're recognizing the economic advantages of them?

14 A. That's always been the case, I guess.
15 Nothing new about that.

16 Q. Well, before there was a perception,
17 if you will, that there was some -- some customer
18 barrier due to capital costs, but this would seem to
19 indicate that that just isn't the problem. Customers
20 are seeing the benefit. They're reacting, and capital
21 isn't a problem?

22 A. Do you read that in the two bullets
23 you are directing me to?

24 Q. No. I'm asking you if that's the
25 situation?

1 A. In some market segments and some
2 program areas, that is the case; and in others, that is
3 not the case.

4 For example, in street lighting,
5 municipalities have recognized and have seen the
6 benefits of efficient street lighting and they're
7 moving -- there's infrastructure in place now, and
8 they're moving to implement that on their own.

9 Q. And so --

10 A. So there's been achievement of
11 customer awareness and customers are convinced of the
12 benefits of efficient street lighting.

13 Q. And you've always --

14 A. Other areas, that has not happened.

15 Q. And you've already mentioned the fuel
16 switching example which is another illustration of
17 that?

18 A. For different reasons, because of
19 price differential that we feel customers are going to
20 act on that.

21 Q. Mr. Shalaby or Mr. Burke, we know
22 that the DSM forecast is reduced in Exhibit 796 from
23 the Update, Exhibit 452. You'd agree that, I assume?

24 A. Yes.

25 Q. Now, after determining the amount of

1 DSM that is needed to manage the surplus, with a
2 reduced DSM forecast, Hydro will have less deferred
3 DSM. Isn't that fair?

4 A. With a reduced forecast?

5 Q. Hydro will have less deferred DSM
6 after it determines the amount of DSM it needs to
7 manage the surplus, simply because it has less DSM to
8 start with.

9 A. That exhibit explains that the
10 deferral was one way of saying or estimating how much
11 reduction in demand management might occur because of
12 the change in economic conditions and total customer
13 costs. The new load forecast takes a more detailed
14 look at the potential most achievable; so they're not
15 additive to one another.

16 I don't know that I'm understanding your
17 question sufficiently to -- for that to be a good
18 answer or not?

19 Q. Well, Mr. Shalaby, isn't it fair to
20 say that there is less upward flexibility with DSM now
21 than there was before to meet upper demand growth? We
22 can't rely on DSM as much as we were in the past?

23 A. For flexibility?

24 Q. For upward flexibility.

25 A. I wouldn't say so. It's not obvious

1 to me why that is a reason.

2 Q. The lower load forecast of DSM --
3 sorry, the lower forecast of DSM.

4 A. But in the case of needing additional
5 demand management for upward flexibility, there could
6 be additional stock available to manage, there could be
7 higher avoided costs. What I'm saying is that if you
8 envisage a situation where you need more resources,
9 there could be more demand management that's economic
10 as well. There are other conditions where it may not
11 be, but there are conditions where it could be.

12 Q. Mr. Burke, we know that the
13 updated -- the 796 basic load forecast assumes a
14 significant amount of natural fuel switching. I
15 understand that there was no natural fuel switching
16 assumed in the earlier forecasts; is that correct?

17 MR. BURKE: A. Yes.

18 [11:27 a.m.]

19 Q. Mr. Burke, if you could turn to page
20 110, Attachment C, the very bottom of the page, the
21 last sentence reads:

22 This forecast assumes that Ontario
23 Hydro will provide fuel switching
24 information to customers, and, if needed,
25 could offer financial incentives in the

1 mid-90s to capture additional fuel
2 switching savings in the residential,
3 commercial and industrial sectors.

4 Do you have any estimate of what
5 proportion of program-driven fuel switching savings are
6 attributable to information only, versus
7 incentive-driven programs?

8 A. No.

9 Q. That's not included in your forecast?

10 A. No, I think we have an estimate of
11 the total impact we expect to get one way or another.

12 Q. And what you are saying is you are
13 prepared to offer incentives to get the amount that you
14 have forecast?

15 A. I guess that's one way of putting it,
16 yes. It really depends on the market conditions at the
17 time, and the rate of conversion that we see through
18 market forces in the period prior to the introduction
19 of incentives.

20 Q. And as I understand it, the fuel
21 switching program component in your latest forecast is
22 240 megawatts?

23 A. Yes. That's the information included
24 on page 5 of the Exhibit 937.

25 Q. Yes. Now, so I understand, you are

1 prepared to offer incentives so that you can obtain
2 this block. I would like you to refer to the other
3 block that is under the heading of fuel switching, that
4 is market-driven fuel switching.

5 And my question is the same there: Is
6 Hydro prepared to offer incentives to ensure that this
7 amount of fuel switching is achieved, the market-driven
8 fuel switching?

9 A. By it's definition, market-driven
10 fuel switching is what we expect now to occur in
11 response to market forces, and, therefore, will not
12 require incentives.

13 Q. I understand what the definition is,
14 Mr. Burke. My question is going a little beyond that.

15 In your forecast you are saying that you
16 are expecting 880 megawatts of market-driven fuel
17 switching. What I am suggesting to you is a situation
18 where you don't obtain that 880 megawatts, would you
19 then use incentives so that your forecast or your
20 target of 880 megawatts was met in the same way that
21 you would use incentives to meet your target of 240
22 megawatts for programs?

23 MR. SHALABY: A. We'll then assess the
24 situation. I guess what I'm saying is, we'll cross
25 that bridge when we get to it.

1 Q. It's not an option you are
2 considering at the moment?

3 A. At the moment we expect the market to
4 do much of the work in the fuel switching area and we
5 will monitor the situation and monitor our own
6 strategies and philosophies and resource - everything
7 else that comes into deciding what programs to
8 implement and what priorities to stress, so there's no
9 answer now for that hypothesis.

10 Q. Mr. Burke, talking about penetration
11 rates. As I understand it, Hydro's earlier forecasts
12 indicated that for certain programs you took standards
13 into account; and when standards were taken into
14 account, you assumed a higher penetration rate as
15 compared to other programs. Is that a fair analysis?

16 MR. BURKE: A. Well, I think for the
17 longer-term analysis, it wasn't so much programs as
18 potential in given end-uses. And when standards were
19 applied, yes, we assumed that a hundred per cent of the
20 potential in that end-use that the standard applied to
21 would result in savings to Ontario.

22 Q. So a higher penetration rate?

23 A. Yes.

24 Q. Now, has Hydro revised in 796 its
25 penetration rates so that all programs have the same

1 penetration rates? Those with and without standards.

2 A. No, the approach taken in Exhibit 796
3 is in principle the same as what was in the DSP update
4 load forecast and the previous forecast to that, and
5 that is where standards apply the penetration rate is a
6 hundred per cent; where programs apply, the penetration
7 rates are as laid out in places like Exhibit 76.

8 What's happening is that the mix of
9 standards is different. So that we, as indicated in
10 direct evidence, have about 350 megawatts of standards
11 which are included in the basic load forecast, but are
12 effectively -- sorry, an additional 350 megawatts from
13 last year are effectively performing the same function
14 as standards that were included in the program
15 described last year to achieve 2,225 megawatts of
16 electrical efficiency improvement.

17 And we have applied the same penetration
18 rates where programs go as we did before, we've applied
19 a hundred per cent where standards go, it's just that
20 the number or the proportion of standards is different
21 from before.

22 So if you're dividing the total result by
23 the total potential and getting a higher -- or
24 different penetration rate, it's because of the
25 different mix between programs and standards.

1 Q. Now, Mr. Burke, if you could turn to
2 page 120.

3 A. I'm there.

4 Q. The second paragraph, first two
5 sentences read:

6 Current estimates of potential induced
7 EEI in the industrial sector are
8 incomplete. For example, additional
9 analysis of potential is required for
10 many of the process-specific
11 technologies.

12 And if you could then go down to the next
13 paragraph, Mr. Burke, where you are talking about the
14 identified potential. And you state:

15 The identified potential induced EEI
16 before standards is estimated at 470
17 megawatts by the year 2000.

18 Now, my question is: Is the revised estimate of 470
19 megawatts by the year 2000 limited to identified
20 potential for which analysis has been completed?

21 A. Well, the distinction here is the
22 same distinction that existed in the Panel 4 evidence;
23 that is, a portion of the industrial potential as
24 identified and a portion is not identified and is
25 imputed to these process-specific technologies subject

1 to further study.

2 And it's the same treatment here, the
3 identified potential in this case refers -- is compared
4 to the identified potential from before, and there
5 effectively the total potential induced of 900
6 megawatts, that number has stayed the same.

7 Q. Just let me try one more, just so I
8 understand this, Mr. Burke.

9 Again, looking at these two paragraphs,
10 and you mentioned the figure of 900. Is it fair to say
11 that the prior estimate of 900 megawatts of EEI savings
12 for the industrial sector, which is basically from
13 Exhibit 258, as I understand it, include savings from
14 process-specific technologies which required further
15 analysis, and that the estimate which excludes those is
16 the 520?

17 A. Yes. I think the estimate for
18 industrial potential goes -- is not in Exhibit 258, but
19 goes back to Exhibit -- it goes back to Exhibit 76
20 which was prepared based on the 1990 load forecast.
21 But, yes, "yes" is the answer to your question.

22 Q. Good. Thank you.

23 And just one more question on page 120.
24 The next paragraph down, Mr. Burke, that's the fourth
25 paragraph, talks about average penetration rates for

1 the industrial sector, and they're assumed to be 45 per
2 cent. And you then go on to obtain an estimate for
3 obtainable induced EEI of 367 megawatts by the year
4 2000.

5 And the question very simply, Mr. Burke,
6 is, the 45 per cent penetration rate applied to the 367
7 doesn't seem to give me any of the numbers I've seen on
8 page 120, or, conversely, using the numbers on 120,
9 applying the 45 per cent penetration rate, I don't get
10 the 367.

11 Can you help me out with how that
12 happens?

13 A. Well, the way it works is we start
14 with the 900 megawatts of potential induced EEI before
15 standards, there's 103 megawatts of standards in the
16 basic load forecast; we've now included fuel switching
17 in the industrial sector, the effect of that is to
18 reduce the EEI potential by 6 megawatts; that gives you
19 a starting point of 791 megawatts for programs, to
20 which the 46 per cent penetration rate is applied -- I
21 guess that's slightly different from the 45 number
22 given here, but that's the value for the year 2000; and
23 that deals -- it says 368/367 megawatts, as in that
24 paragraph.

25 Q. Thank you, Mr. Burke.

1 So the big difference then is the
2 introduction of much more standards compared to the
3 prior estimates?

4 A. That's correct.

5 Q. Mr. Burke, on page 76 through to page
6 80 of Attachment C, you provide an analysis of various
7 end-uses.

8 If you could turn to page 78, there's an
9 analysis of the interior lighting load in the
10 commercial sector. And when compared to the previous
11 figures, there is a decline of about 4 per cent. I
12 assume you don't have any difficulty with that?

13 A. I'm sorry, which previous figures?

14 Q. If you look at Attachment C, page 80,
15 you'll see indoor lighting for 2000 is about 13,118,
16 and in Exhibit 17 the figure is 13,679. Exhibit 17,
17 Table 9.

18 A. Yes.

19 Q. So there is a decline, Mr. Burke, of
20 about 4 per cent. I am curious as to how Hydro derives
21 its new estimate, its lower estimate?

22 A. Well, you're asking a very
23 complicated question because very many things have
24 changed in preparing forecasts of lighting.

25 A major element is that the amount of

1 square footage being lit in this forecast is down
2 several per cent from the previous time, that alone
3 would explain this difference. I'm not sure how the
4 mix of technologies has changed in detail, but we are
5 including the same sorts of technologies and roughly in
6 the same way.

7 Q. Mr. Burke, you said it's a complex
8 answer and you said there are many factors.

9 You have said the square footage is down,
10 you have said technology is roughly the same. Are
11 there other factors which explain this?

12 A. Well, there are different versions of
13 the COMMEND model being used. I don't know if that
14 contributes to the difference or not.

15 The basic forecasts includes the lighting
16 sector impacts of the ash ray 19.1 standard, which was
17 not the case in, in the 1990 load forecast.

18 Q. How about the --

19 A. Sorry.

20 Q. Sorry. Go ahead.

21 A. No, I think the major ones have been
22 covered so far.

23 Q. How about the introduction of
24 standards for flourescent ballast?

25 A. Yes, that's true. That's a

1 relatively small number, but, yes, that's a factor.

2 Q. So you've given us a series of
3 points, Mr. Burke. Do I understand you to say the main
4 difference is square footage and the rest of these are
5 subsidiary points?

6 A. That would be my expectation, yes. I
7 could check that.

8 Q. Well, please, Mr. Burke. And if it
9 is something different, let us know.

10 If I don't hear from you, I will assume
11 that--

12 A. --square footage is the main point, I
13 guess.

14 Q. You mentioned two points, Mr. Burke,
15 ash ray 90.1 -- sorry, let me move on.

16 We talked about flourescent ballast.
17 What type of standards were incorporated for
18 flourescent ballast? Is there a document that you
19 could point me to?

20 A. I think that will be included in the
21 background volume on the commercial sector forecast
22 when it's issued.

23 What I can tell you is that it's a
24 standard that's applicable to flourescent lighting with
25 standard ballasts only; it's a 25 per cent increase in

1 ballast efficiency which results in a 4 per cent
2 increase in the fluorescent system efficiency; and I
3 believe it comes into effect in 1992 with a further
4 augmentation of 10 per cent in 1998 in this forecast.

5 Q. Mr. Burke, you were reading from a
6 document. Is that something you can produce or are
7 those your briefing notes?

8 A. These are my briefing notes, and
9 they, as I say, this material will, I'm sure, be
10 included in the reports when they are issued for the
11 commercial sector.

12 Q. Thank you.

13 If you look at page 78 for interior
14 lighting, you assume a total efficiency gain including
15 standards of about 12.6 per cent by the year 2015.

16 Would you agree with me, Mr. Burke, that
17 this is much lower than the efficiency gains that you
18 were looking at in Exhibit 76?

19 [11:46 a.m.]

20 A. Exhibit 76 was looking at the effect
21 of incentive-driven potential for economic efficiency
22 gain in that end use. This is looking at what the
23 market will deliver.

24 Q. Mr. Burke, I was referring
25 specifically to appendix B2 of Exhibit 76.

1 A. Yes?

2 Q. So just so I understand, what you are
3 saying is that this exhibit refers to, if you will, the
4 technical efficiency gain, whereas what you are talking
5 about here on page 78 is the efficiency gain you expect
6 as a result of the introduction of this in the market,
7 the market reaction to this technology?

8 A. Well, I guess more precisely what
9 this refers to is the economic efficiency gain.

10 Q. When you say 'this' you are meaning
11 page 78?

12 A. No, appendix B2 of Exhibit 76. That
13 was the maximum economic efficiency gain in those end
14 uses, and what is included in the load forecast is what
15 we actually think the market will adopt of that.

16 Q. And what you are saying in your
17 forecast is that what you think the market will adopt
18 is significantly less than the efficiencies in Exhibit
19 76?

20 A. Yes. Well, even with programs we
21 didn't think we were going to get the amounts in
22 Exhibit 76. We had suggested 34 per cent. But what we
23 are saying in this forecast is yes, we will get a
24 certain amount of natural efficiency improvement in
25 that marketplace, which will be considerably less than

1 the potential that is economic.

2 Q. Just to finish up this, Mr. Burke,
3 the second paragraph under "Interior Lighting" you say
4 that: Trends in utilization and increasing floor space
5 will act to counterbalance efficiency gains. You say
6 this is especially true in the retail sector where
7 longer operating hours for stores are expected.

8 Now, can you give us some list of these
9 trends that you are referring to here? You have
10 mentioned one in the retail sector, the longer opening
11 hours. Are there other trends that you are referring
12 to? Are they detailed anywhere?

13 A. I think -- I'm not sure whether there
14 is a longer list back in Exhibit 17 or whether there
15 will be a longer list provided in the documents
16 forthcoming, but I think you should wait for that.

17 Q. Well, one last point, Mr. Burke.
18 Could I ask you to let me know or could you give an
19 undertaking to advise as to whether there are any
20 trends that are referred to here that were not in your
21 prior forecast?

22 A. Okay. If you are asking for whether
23 the trends in utilization are different from the
24 previous load forecast and what is the cause of that,
25 is that what you are asking?

1 Q. Yes.

2 A. I think I can...

3 THE CHAIRMAN: Give that a number then,
4 please.

5 THE REGISTRAR: No. 940.10.

6 ---UNDERTAKING NO. 940.10: Ontario Hydro undertakes to
7 provide information as to whether
8 the trends in utilization are
9 different from the previous load
forecast and to give the cause of
that.

10 MR. R. WATSON: Thank you, Mr. Burke.

11 Mr. Chairman, that completes the
12 questions I wanted to ask this Panel. As I advised you
13 earlier on - I have discussed this with both Ms. Harvie
14 and Mr. Campbell - I have taken a series of
15 interrogatories that we have already asked Hydro what
16 we deem to be the key interrogatories that we need
17 answers to as soon as possible. I have reduced those
18 to one document, and pursuant to the suggestion you had
19 made earlier I would like to give these to the Panel
20 and to Hydro counsel, have them look at them, and get
21 back to me as to whether it is feasible to answer
22 these. I'm hoping it is.

23 If there is some difficulty, then as we
24 have in the past, Mr. Campbell and I will attempt to
25 resolve them. If for some reason we cannot, we propose

1 to come back in front of you before this Panel ends.

2 I understand that to pursue this Mr.
3 Campbell may have to speak with the witnesses about
4 these specific questions. I have no difficulty with
5 that, if that is fine with you, Mr. Chairman.

6 THE CHAIRMAN: Is that satisfactory, Mr.
7 Campbell?

8 MR. B. CAMPBELL: Yes, Mr. Chairman.

9 THE CHAIRMAN: Thank you. That will be
10 fine.

11 MR. R. WATSON: Should we make this an
12 exhibit, Mr. Chairman?

13 THE CHAIRMAN: I don't think so. I don't
14 think it is necessary.

15 MR. R. WATSON: That's fine. Those are
16 my questions, Mr. Chairman. Thank you.

17 THE CHAIRMAN: Thank you, Mr. Watson.

18 Mr. Greenspoon, are you next?

19 MR. GREENSPOON: Yes. I did want to
20 refer to Exhibit 32, but I don't know when I will reach
21 it. And I spoke with the Panel. I understand they
22 don't have it.

23 THE CHAIRMAN: Can you tell me what
24 Exhibit 32 is?

25 MR. GREENSPOON: It is the transmission

1 related to hydraulic. I asked the Clerk to get it.
2 Oh, they have it, so it is no problem. Hydro comes
3 prepared.

4 CROSS-EXAMINATION BY MR. GREENSPOON:

5 Q. I would like to first look to Exhibit
6 796, if I could, starting at page 1.

7 The last sentence of the second paragraph
8 says that at the time of the Update there was no study
9 of the relative merits of the different options for
10 managing the surplus.

11 I take it that that has been done to some
12 extent. I am wondering if it has been done in its
13 entirety; that is, have you completed a study of how
14 you are going to manage the surplus?

15 MR. SNELSON: A. That is the subject of
16 the September and October board memos as regards the
17 capital plan and the mothballing decisions.

18 Q. All right. But if you look at
19 Attachment G, that is called an "Economic Ranking of
20 Surplus Management Options". So that is a particular
21 study that clearly is directed at that issue, Mr.
22 Snelson. There is a study that says here's how we are
23 going to manage the surplus from an economic ranking
24 point of view?

25 A. It says: This is the economic

1 ranking of the options, yes.

2 Q. All right. Now, has there been an
3 environmental ranking of managing the surplus?

4 A. Not that I am aware of.

5 Q. Has there been any other kind of
6 ranking of managing the surplus?

7 A. There have been -- the managing of
8 surplus was approached from a number of perspectives
9 and a lot of issues were discussed and addressed in
10 that, and the summary of that that was prepared and
11 documented is in the September and October board memos.

12 Q. Yes, but that -- sorry?

13 A. And the Attachment G is an
14 explanation of how one of the figures in those board
15 memos was derived.

16 Q. Well, let's suppose hypothetically
17 that we hadn't had the necessities -- and we will get
18 to them in a second that you list, what you call the
19 'pressures'. Let's suppose that those pressures had
20 not continued and the Update was still where we were
21 and we didn't have the board memos.

22 Would you not have done a managing the
23 surplus study in a more thorough manner?

24 A. I'm not sure exactly what we would
25 have done if the past was different to what it actually

1 was.

2 Q. In any event, you haven't, other than
3 as you have mentioned? Yes?

4 A. The documentation that has been
5 completed you have.

6 Q. Now, looking at then those four --
7 continuation of the recession, just a little further
8 down the page, the pressures that you say? Again, I'm
9 still on page 1.

10 I wondered -- I had a couple of questions
11 about that. One was I wondered if we could add two
12 other items adopting without accepting for a minute the
13 use of the word 'pressure', one being the Demand/Supply
14 Plan hearing itself - and that would be a fifth - and a
15 sixth, nuclear performance.

16 Would it be fair to add those two?

17 A. Nuclear performance being less than
18 it was predicted to be some years ago has put pressures
19 on the Corporation, yes.

20 With respect to this hearing, I don't
21 believe it is comparable to the other factors
22 discussed.

23 Q. But it is a factor?

24 A. It is a fact.

25 Q. Now, in the next -- okay. And then

1 just thinking of those, and forget about the two I
2 added, or throw away the one that you don't accept
3 totally, the DSP; add the nuclear performance as you
4 qualified it. How would you rank those?

5 A. I don't think I have been in the
6 position of trying to rank them. To some degree one is
7 dependent upon another, and they are all important
8 factors.

9 Q. Including the nuclear performance?

10 A. The nuclear performance is an
11 important factor, yes. Not that -- the nuclear
12 performance factor was certainly a factor prior to the
13 DSP Update. I'm not sure that it has intensified in
14 the same way that the other factors have that are
15 discussed here, but it is an important factor.

16 Q. Well, I will ask you some questions
17 about Darlington maybe later on and we can maybe
18 revisit that issue.

19 During this year's planning cycle, just
20 reading the next bullet, decision-making on business
21 plans and other matters has had to respond to these
22 increased pressures while, at the same time, developing
23 and implementing actual surplus management decisions.

24 Just two small questions. What are the
25 'other matters' that you refer to there?

1 A. It is just a catch-all for all the
2 things that the Corporation has to decide upon.

3 Q. Okay. And what actual surplus
4 management decisions have you made?

5 A. That was addressed in the September
6 and October board memos and also in the December
7 decisions. So it is addressed through Exhibit 796.

8 Q. But those are planning -- those are
9 surplus management planning options. Have you done any
10 surplus management?

11 A. Some of them are longer-term options
12 and some are short-term options. The decisions to
13 cancel or to close the operation of two Lakeview units
14 on, I believe, January the 1st of this year -- I would
15 have to check the --

16 Q. Okay. Well, there's one example,
17 then.

18 A. That has presumably been effective
19 for the last few days. There is a decision to close a
20 further two Lakeview units April 1st of this year.

21 Q. Yes. I'm just saying -- I'm just
22 asking the question, implementing actual surplus
23 management decisions in the present tense, other than
24 planning decisions.

25 A. Well, the distinction that is being

1 made between actual surplus management and the intent
2 of those words was to distinguish it from illustrative
3 surplus management decisions that were being discussed
4 at the time of Panel 10.

5 Q. Well, the distinction between
6 illustrative and actual becomes blurred as you change
7 your plans, though. I am not being pejorative. I am
8 just saying that if things change, something that is
9 illustrative or actual can become academic. If you
10 need to change it you'll change it?

11 A. Yes.

12 Q. Yes. So all my question is getting
13 at is the actual -- and it is my definition of the word
14 'actual'. I accept that.

15 Other than Lakeview that was mothballed
16 on the 1st, are there any other examples of surplus
17 management decisions?

18 A. The decision to cancel the Manitoba
19 Purchase is an actual decision. As we have said in our
20 direct evidence, a notice of termination has been sent
21 to Manitoba Hydro.

22 I think the distinction here is that the
23 illustrative surplus management decisions that were
24 discussed on Panel 10 indicated an intention to manage
25 the surplus but without identifying the specific

1 decisions as to how the surplus would be managed, and
2 the rest of the plans of the Corporation were not
3 adjusted to incorporate and implement those
4 illustrative decisions, but the decisions that had been
5 made in December and October and September are all
6 being reflected in the plans of the Corporation, what
7 everybody does.

8 So as necessary actions are being taken
9 to implement those decisions.

10 Q. Yes. Okay. And Manitoba, you have
11 filed a notice of cancellation?

12 A. I believe that is the process that is
13 laid out in the contract.

14 Q. Okay. But as we have seen in your
15 reluctance to talk about the financial implications of
16 that, it is not outside the realm of possibility that
17 Manitoba won't be cancelled?

18 MR. B. CAMPBELL: No, there is -- Mr.
19 Greenspoon is free to read the contract. The
20 consequences which flow from a notice of termination
21 are clearly described and they are being followed.

22 MR. GREENSPOON: Q. Now, let's go to
23 page 13 of appendix A of Attachment B. Page 13 of
24 appendix A of Attachment B.

25 THE CHAIRMAN: Is that the page that

1 starts off with "Customer Expectations"?

2 MR. GREENSPOON: That is the one.

3 Q. While electricity costs in Ontario
4 are still lower on average when compared
5 to U.S. jurisdictions the annual increase
6 in rates has been a major concern to
7 customers.

8 Have you any knowledge of the increase in rates in U.S.
9 jurisdictions? Have there been any examples of rates
10 of this type of increase in the United States -- in
11 U.S. jurisdictions?

12 MR. SNELSON: A. I haven't analyzed the
13 U.S. rate situation in detail. I have got some passing
14 familiarity with some aspects of it, but...

15 Q. At the rate - let me ask it another
16 way - at the rate that your rates are increasing, it
17 won't be long before on average you are going to be
18 right up there with most U.S. jurisdictions. Would
19 that be fair to say?

20 A. If that level of rate was to
21 continue. But I think that very strongly management
22 action in Ontario Hydro is being taken to prevent that
23 level of rate increase continuing into the future, and,
24 in fact, aiming to bring rates -- rate increases down
25 to the level of inflation.

1 Q. Now, just looking at the order, and
2 you rank the orders of what is identified by your
3 customers further down the page, is this the way these
4 four, rates, reliability, environment and demand
5 management, are these the drivers of your plan as shown
6 in 796?

7 A. They are four of the factors that we
8 take into account in our planning, and documents such
9 as the Demand/Supply Planning Strategy has a more
10 complete listing.

11 Q. But how -- I guess what I want to
12 know is, how does this change the Demand/Supply
13 Planning strategy?

14 A. I don't think it does change the
15 Demand/Supply Planning strategy.

16 Q. So the priority of rates as the
17 topped ranked issue for customers, has no impact on the
18 Demand/Supply Planning strategy?

19 [12:07 p.m.]

20 A. I think we've always said that we
21 can't put a ranking on the factors included in the
22 Demand/Supply Planning strategy, but those factors in
23 the strategy are important and will continue to be
24 important, but that the ranking can shift from time to
25 time according to this situation at the time.

1 Q. So when we look at the next sentence
2 where you're -- oh, I wanted to ask you first before I
3 ask that, who was the research agency that conducted
4 the survey?

5 A. I believe it was Goldfarb.

6 Q. And that's your usual consultant?

7 A. They have done consulting work for--

8 Q. Work for you.

9 A. --us before.

10 Q. And environment has moved from a
11 virtual tie with rates to third place in customer
12 ranking. Is that going to change Hydro's planning for
13 the future, that ranking?

14 A. I think that we have indicated in our
15 direct evidence that more emphasis is being put upon
16 controlling rates in the short term, and, yes, it has
17 had some influence on our planning.

18 Q. Now, Mr. Burke, is that -- is that
19 where you mentioned yesterday, and I didn't -- maybe
20 didn't catch the reference, but you talked about a
21 behavioural change regarding the cost of electricity.
22 Is that what you were referring to, was this survey?

23 MR. BURKE: A. No.

24 Q. No. What were you referring to when
25 you said that?

1 A. What I was talking about in my direct
2 evidence, which was related to the fact that since
3 about 1989 customers have been converting from
4 electricity to gas for space and water heating, whereas
5 they had not prior to that year been doing so to any
6 significant degree at all, and this seemed to imply a
7 change in customer behaviour relative to the past.

8 Q. Okay. Thanks.

9 Now, if we could just move to Figure 4 of
10 Attachment A, what is the missing impact for the
11 Manitoba purchase under Impact? What would you put --
12 what word would you put in there?

13 MR. SNELSON: A. I'm sorry. I must have
14 a different figure.

15 MR. B. CAMPBELL: You must have a
16 different page.

17 MR. GREENSPOON: Oh, I'm sorry.

18 THE CHAIRMAN: This is Figure 4 of
19 Attachment A. This is --

20 MR. GREENSPOON: Yes.

21 MR. SNELSON: I'm sorry. I'm in an
22 appendix to Attachment B.

23 MR. GREENSPOON: No. I said Attachment A
24 to --

25 MR. SNELSON: A. I've found the place I

1 think.

2 Q. Figure 4 of Attachment A.

3 A. Yes.

4 Q. Okay. And, now, can you give me a
5 missing -- the missing word for Manitoba purchase under
6 Impact?

7 THE CHAIRMAN: I guess it's because
8 you're saying that there's large "benefit" up at the--

9 MR. GREENSPOON: Yes.

10 THE CHAIRMAN: --top of the column and--

11 MR. GREENSPOON: Yes. Would he give
12 me --

13 THE CHAIRMAN: --small "benefit" at the
14 bottom. Is that what you mean?

15 MR. GREENSPOON: Yes.

16 Q. Would he give me one of those words?

17 MR. DALZIEL: A. I think what's being
18 reflected there is that the impact for the Manitoba
19 purchase is at the end of the scale that corresponds to
20 the large benefit.

21 Q. Oh, I see. Oh, okay. Stupid, I'm
22 slow. I'm sorry about that. I understand.

23 So a large benefit flowing down
24 doesn't -- one isn't large and the next one isn't
25 benefit. (Laughter) That's how I read it.

1 Thank you. I'll try not to embarrass
2 myself my more.

3 Moving on to page 5 of the first exhibit,
4 I wanted to ask if, when we're talking about demand
5 management... I guess this is your area, Mr. Shalaby.
6 I wondered if there were any new programs? It's clear
7 from your evidence that you think some of the old
8 programs might not meet the total customer cost test,
9 and you'll dispose of them as needed.

10 I wondered if there are any new programs
11 that have been factored into Exhibit 796, and, I guess,
12 I'll just raise the issue of the exhibit as an example.
13 That's the exhibit that I've given my friend and the
14 clerk; and on one side is a letter from Ontario Hydro
15 to Northwatch, and on the other side is a coupon --

16 THE CHAIRMAN: Can we have that?

17 THE REGISTRAR: You'll have that in a
18 second, Mr. Chairman. That will be Exhibit No. 1022.

19 ---EXHIBIT NO. 1022: A letter from Ontario Hydro
20 to Northwatch/Coupon.

21 THE CHAIRMAN: Those are following
22 continuity. I should have mentioned earlier that 1021
23 is an exhibit that was filed yesterday by the Moose
24 River/James Bay Coalition, NAN/Treaty #3.

25 MR. GREENSPOON: Now, it's the back, Mr.

1 Chairman. It's not the letter at this point. I was
2 trying to save some trees again and I put two exhibits
3 on one. I'm content that the whole exhibit be the same
4 number. Or is that a bad idea?

5 THE CHAIRMAN: No, that's all right.

6 MR. GREENSPOON: That's all right?

7 Q. Now, when I went home for the
8 holidays, I was stopped by the RIDE. Everybody was
9 stopped. It wasn't just me. (Laughter) They had the
10 highway blocked, Highway 69. And you got one of these
11 booklets; and I reproduced the cover. "Esso thanks
12 you...spot checks, thank you from your RIDE..." And
13 the coupon, I hope I haven't lost it because I want to
14 buy the light bulb, but maybe I have. (Laughter)

15 Anyway... No, I've got it. Now, before
16 January 23rd, you can go to Woolco and you can buy a
17 40-watt replacement, which is an 11 watt, I think. I
18 put it to you that may be low, a 40-watt - but in any
19 case we won't discuss that here - for \$11.99 and you
20 still get the \$5 back from Ontario Hydro.

21 Now, that certainly, you'd agree with me,
22 Mr. Shalaby, those aren't the prices that you
23 contemplated when you gave your evidence in Panel 4?
24 This is a much, much lower price. These bulbs at the
25 time of Panel 4 were retailing close to \$35.

1 MR. SHALABY: A. This may be starting to
2 show the impact of a changing marketplace and
3 introducing infrastucture. I think we talked about the
4 initiatives Hydro takes in making manufacturing and
5 distribution capability in place; so I see that has a
6 measure of success for the infrastucture being in
7 place.

8 Or, yes, the answer is this probably is
9 lower than we expected in Panel 4.

10 Q. Certainly, this may meet the total
11 customer cost test. Without without analyzing whether
12 it does or not, this light bulb installed in a --

13 A. It depends on how often it's used.

14 Q. Well, let's say -- yes.

15 But whereas a \$35 light bulb, I think Mr.
16 Burke and I discussed this maybe off the record, might
17 ahve to be on 24 hours a day, certainly one of these,
18 without getting into the details, might meet the total
19 customer cost test, say, if it was used as a
20 night-light?

21 A. I expect that does; yes.

22 Q. And, in fact, it may not be direct --
23 I mean, you can attribute this to Ontario... Sorry.

24 MR. BURKE: A. Go ahead.

25 Q. No, I...

1 MR. SHALABY: A. We're also having an
2 off-the-record discussion.

3 Q. Right. I won't ask you about your
4 situation with energy-efficient light bulbs.

5 You attribute this to Hydro and the
6 market, and that's admirable, but it may also be that
7 what we have here is a situation where this light bulb
8 is now almost obsolete because of the new
9 energy-efficient light bulbs that are coming in, and
10 it's being clear. That's another phenomenon that we're
11 going to see with efficient products; isn't that
12 correct?

13 A. That may occur, but I doubt very much
14 that this is the case in this particular instance.

15 Q. Well, I won't dispute that. I don't
16 think we should argue about the facts, but we'll
17 hopefully -- or hopefully we won't need to call
18 evidence on that matter, but if we do, we will.

19 Okay. I'd like to just quickly
20 identify -- and I ask for your indulgence, Mr.
21 Chairman, because I merely want to identify a number of
22 places where further work is going to be done, and this
23 may repeat questions asked by other people, but I don't
24 propose to deal with it for very long.

25 Now, if we go back, just quickly back, to

1 796, on page 2, second paragraph, you've already
2 acknowledged, Mr. Snelson, that additional work --
3 additional analysis is going to be done as indicated in
4 paragraph 2; is that correct?

5 Page 2, the first full paragraph, Exhibit
6 796.

7 MR. SNELSON: A. I think there is
8 additional work going to be done, and we have discussed
9 that to some degree.

10 Q. Yes.

11 A. The work that's described in that
12 particular paragraph was the additional work to be done
13 between September and October.

14 Q. Okay.

15 A. That's the specific that is being
16 addressed there.

17 Q. All right. So we can scratch that
18 one out. The bottom paragraph on that page.

19 A. Yes, and that's --

20 Q. That's further work, Mr. Watson, that
21 came up in his cross-examination?

22 A. That's correct.

23 Q. We could add to that the study, the
24 work that's being done on Bruce "A"?

25 A. Yes.

1 Q. If we turn over to page 5, the second
2 paragraph, "Energy management programs will be
3 re-evaluated," that's going to be done?

4 A. Yes.

5 Q. Okay. Page 11, second last
6 paragraph. "Neither case reflects a definitive
7 decision on when Little Jackfish should be built."
8 That's something that is going to be determined in the
9 future?

10 A. Yes.

11 Q. Last paragraph, last sentence:
12 "Detailed cost benefit analysis with the November issue
13 of the SICs has not been done." We discussed that with
14 Mr. Watson, and that's going to be done later?

15 A. Yes.

16 Q. Page 15, last paragraph: "Further
17 decision will be made after the results of the working
18 group have been evaluated by senior management and
19 Hydro's Board of Directors." Emissions, that's talking
20 about emissions management?

21 A. Yes. There's an ongoing--

22 Q. All right.

23 A. --work in that regard.

24 Q. Page 17, the last paragraph: "The
25 effects on transmission plans of the new load forecast

1 on the cancellation of the purchaser being reviewed;
2 decisions have yet to be made on specific changes in
3 transmission plans."

4 A. We've indicated some of the changes
5 that have been made like the cancellation of the
6 Manitoba/Ontario interconnection, but--

7 Q. Yes.

8 A. --there is work ongoing about further
9 possible changes.

10 Q. Page 22, third last paragraph:
11 "Further actions to manage the surplus will consider
12 the full range of options, DSM, NOx, hydraulic and the
13 existing system."

14 A. That is a more specific reference to
15 the sort of work that was included in the reference at
16 the bottom of page 2.

17 Q. Okay. We have can scratch that one
18 maybe. The next paragraph: "The amount of demand
19 management that could be considered from surplus
20 management has yet to be re-evaluated." So that's work
21 you're going to do, right?

22 A. Yes, and I think that's a restatement
23 of something that was said with regard to demand
24 management.

25 Q. Well, I only take it as you put it

1 out. I agree, it may be -- there may be overlap.

2 Now, if we could move to Attachment A to
3 this exhibit, page 12, first full paragraph: "The
4 financial impacts" - I'll just let the Panel find
5 that - "The financial impacts of deferring capital
6 projects including potential writeoffs will be dealt
7 with during the budget process." That's yet to be
8 determined?

9 A. Well, that's a budgeting matter, not
10 primarily a planning matter.

11 Q. But it's a matter that's yet to be
12 determined?

13 A. It may have been determined by now.

14 Q. Okay. This is page 1, Attachment C,
15 second last paragraph: "More complete documentation
16 will be available shortly on each of the major building
17 blocks to the forecast." That's work that has yet to
18 be done?

19 Mr. Burke?

20 MR. BURKE: A. It's in progress; yes.

21 Yes, and we've already given an
22 undertaking to provide it.

23 Q. Okay. I know there's some more, but
24 I don't suppose it matters.

25 THE CHAIRMAN: Well, will the NUG hold

1 for another...? I don't know if you've mentioned that
2 yet.

3 MR. GREENSPOON: Pardon me?

4 THE CHAIRMAN: The hold on NUGs, that's
5 another one.

6 MR. GREENSPOON: Yes, well, that's
7 enough. (Laughter) That will keep us busy another few
8 years, I think, as they come in.

9 I'm looking for a short topic, Mr.
10 Chairman, to fill five minutes here.

11 THE CHAIRMAN: Why don't we stop for
12 lunch?

13 MR. GREENSPOON: Stop? That will be --
14 all right. That's a good place.

15 THE CHAIRMAN: We'll stop for lunch and
16 come back at a quarter to two.

17 THE REGISTRAR: Please come to order.

18 This hearing will adjourn until 1:45 p.m.

19 ---Luncheon recess at 12:26 p.m.

20 ---On resuming at 1:50 p.m.

21 THE REGISTRAR: Please come to order.

22 This hearing is now in session. Please be seated.

23 MR. GREENSPOON: Mr. Chairman.

24 THE CHAIRMAN: Mr. Greenspoon.

25 Q. Surplus management. (Laughter)

1 If we could move on to the overheads, I
2 think they're 937. Table 1.1, I take it that
3 externalities were not taken into account in evaluating
4 these impacts.

5 MR. SNELSON: A. This is an economic
6 ranking for deferral based on internal costs.

7 Q. No externalities?

8 A. There are no external costs reflected
9 in that table.

10 Q. On page 2, there's a little triangle
11 that appears at the left hand axis, the Y axis, the
12 axis going up and down. Before it crosses in 1992 and
13 three three-quarters, I guess, I'm wondering why there
14 is a -- that would appear to me to say that we have a
15 deficit, and I thought we had a surplus, and I don't
16 understand why there is a triangle under the line.

17 Mr. Burke, you seem to know the answer.

18 MR. BURKE: A. Part of the answer is
19 what's part of this basic load; and the primary load is
20 lower than the basic load. That's part of the answer.

21 Q. And if you plotted the primary load?

22 A. I said I don't know where it would
23 come relative to the dotted line, but --

24 Q. Well, would it come above it or below
25 it?

1 A. Is this January or December?

2 Well, having said all that --

3 MR. SHALABY: A. Probably come below it.

4 It looks like about less than a thousand megawatts
5 above the load meeting capability. And you should even
6 go below the primary into the firm load, planning firm
7 load, to make that comparison.

8 In planning firm load, is when -- a
9 thousand megawatts below the basic, at least that much,
10 if not more.

11 Q. Do you agree with that, Mr. Burke?

12 I'm not questioning you, Mr. Shalaby, I'm
13 just -- Mr. Burke, is looking some numbers up.

14 MR. SHALABY: A. No, just looking up the
15 details. Okay.

16 Q. You have no problem with that

17 MR. BURKE: A. Me? No.

18 Q. So what kind of a surplus do we have
19 today, then? That's why it struck me as odd. I
20 wondered what the surplus -- I thought we had a surplus
21 today and I wondered -- yes?

22 MR. SHALABY: A. That picture is
23 comparing what the capacity and demand would look like
24 if we didn't have any demand management.

25 Q. Yes.. So what kind of a surplus,

1 leaving aside the table --

2 A. Then you go to page 15 or 16 in that,
3 in that graph and you will see the picture of the
4 surplus. Page 15.

5 Q. So right now we have 2200 megawatts
6 surplus.

7 A. That's what that table shows, yes.

8 Q. Today. And rising.

9 MR. SNELSON: A. I think these are
10 intended to be January values and there are some
11 questions of adjustments that may need to be made, but
12 the 2200 value is for January 1992, we're now January
13 1993.

14 Q. Right. I forgot we were in 1993.

15 A. But it doesn't account for the
16 decision to mothball another two Lakeview units and --

17 Q. Which is how many megawatts?

18 A. 600 megawatts.

19 Q. Each?

20 A. No, 300 megawatts each.

21 Q. So that's still over 3,000 megawatts
22 surplus right today, according to that chart?

23 A. We're over 2,000 megawatts. I don't
24 think we're over 3,000. According to that chart.

25 Q. If you take that, it seems to me -- I

1 don't have a ruler -- but it looks to me like that peak
2 is around '93 and a month or two, that little -- do you
3 know what I mean? Not the big peak, not the second
4 peak, but the first peak where it...

5 A. The first peak I think will be
6 January 1994, because this is a plot that is only based
7 upon January of each year's values. So it only has
8 meaning for winter peak values.

9 Q. Right. So the little triangle, the
10 first diversion, you have got a straight line and then
11 you have a change, that would be reflective of the
12 January 1993 figure?

13 A. Yes.

14 Q. And then the peak --

15 A. And the first peak is --

16 Q. -- is '94?

17 A. -- January 1994. Yes.

18 Q. So as of today we have almost 3300
19 megawatts surplus --

20 A. That's what this graph indicates --

21 Q. Subtract 600?

22 A. Yes.

23 Q. Well, what is the value of the graph
24 if it doesn't indicate what is happening on the ground?

25 A. The graph is there to indicate the

1 expected level of surplus over the next 15 years or so;
2 and with respect to month-to-month conditions, then
3 there are adjustments taking place, and the planning
4 doesn't necessarily capture every change about what's
5 going to happen in the next month or two.

6 Q. So if I had asked you just off the
7 top of your head what the surplus would be, you would
8 have said over a couple of thousand megawatts?

9 A. My interpretation of this graph in
10 general terms is that from now until about the year
11 2005 we have about 3,000 megawatts of surplus.

12 That kind of --

13 Q. So there is no need for any more
14 electricity, certainly right now?

15 A. That is the -- that's what the
16 surplus means, yes.

17 Q. Yes.

18 A. In terms of capacity.

19 Q. Is there another way of looking at
20 it? Other than capacity.

21 A. Capacity is according to how many
22 megawatts you need to build. You always have to keep a
23 balance on energy, which is the other aspect; and
24 energy matters in planning - as I hope has been
25 apparent through this hearing - as important or more

1 important than capacity matters.

2 Q. So what's our situation in energy
3 today?

4 A. We have a sufficient supply of
5 energy.

6 Q. And is there a surplus?

7 A. We have a capability of generating
8 more energy than we need, but we will only act to
9 generate the amount of energy that we need--

10 Q. Yes.

11 A. --on any given day.

12 Q. And that is the relationship between
13 capacity and energy, is that your energy, you can --
14 your capacity is more of a top end?

15 A. Capacity is a question of: Have you
16 enough facilities to be able to to meet your peak load?

17 Q. Right?

18 A. Energy is about how you use those
19 facilities, and is very costly related to matters such
20 as fuel consumption and the use of water, and also it's
21 very closely related in some cases to environmental
22 emissions, which are more related to energy than
23 capacity.

24 Q. But it is more difficult to determine
25 surplus by looking at energy than it is by looking at

1 capacity?

2 A. We've talked about capacity surplus,
3 yes.

4 Q. Yes. Now, if you look at page 4 of
5 the -- I'm still looking at the overheads, I wondered
6 about the volatility of the past as compared to the
7 smoothness of the forecast, and I was concerned about
8 the accuracy of your forecast and given how volatile
9 these prices have been in the past.

10 MR. BURKE: A. Well, first of all, it's
11 important to realize that this plot you're looking at
12 is scaled to electricity equals 100, so that the
13 electricity line itself is flat, just the way the
14 picture was drawn has nothing to do with past or future
15 volatility.

16 Natural gas prices and oil prices, yes,
17 they've been volatile in the past, and it's the nature
18 of long-term forecasts that the forecasters do not try
19 to forecast all the twists and turns in the forecast in
20 future, because it's impossible to do that. So
21 there's, within a year or two of the start of the
22 forecast period, there are broad trends developed, and
23 the result is smoothed over and the write-up in
24 Attachment E gives considerable discussion of the
25 question of when particular price rises may occur for

1 natural gas, and whether they will occur sooner or
2 later, and that it's not really possible for us to be
3 precise about it now.

4 So that, we've provided this trend, and
5 it has to be understood in that context.

6 Q. And as you said, this is a problem
7 with -- or maybe I shouldn't use the word "problem",
8 but this is a characteristic of forecasting.

9 A. It's a characteristic --

10 Q. You tend to smooth volatility out of
11 the forecast.

12 A. We tend to use trends for the
13 long-term forecast where we have nothing better to work
14 with. We also recognize uncertainty in the forecast in
15 the way we do the load forecasting.

16 Q. And would it be fair to say that this
17 forecast that you just filed on Tuesday of last week
18 was a more difficult forecast, given the volatility of
19 the economic situation?

20 A. It may have been a more interesting
21 one to put together, but it's not -- the level of
22 uncertainty at any point in time is, in my view, not
23 materially different.

24 We may think we're in good times, and
25 we're not. We may think we're in bad times, and we're

1 not. And we may think the current situation may
2 continue on, and it won't.

3 No time is particularly more or less
4 uncertain, and that's implicit in the methodology we've
5 used for uncertainty in this hearing.

6 Q. And that is based on what kind -- how
7 far back would you go with that statement?

8 A. I think the whole uncertainty
9 methodology was discussed--

10 Q. Yes.

11 A. --at length and I --

12 Q. Yes. My question is, and maybe
13 you've already answered it and I'll put it to you
14 again, is that I put to you that this is a much more
15 uncertain time that we've ever seen since the
16 industrial age; that the uncertainty in technology, in
17 jobs and in the economy is far beyond the uncertainty
18 that we have experienced in the past.

19 Do you want to disagree with that or
20 agree with that or...?

21 A. I think I just disagreed with that
22 before you made the statement.

23 Q. You do disagree with that?

24 A. Yes.

25 Q. Fine.

1 I wanted to go to page 6 of the
2 overheads. And I take it that energy intensity has
3 already started to drop?

4 A. Well, from the 1991 level it drops
5 throughout the forecast period. I mean historically it
6 has been dropping before we got to '88. I mean, that's
7 not a new trend. It's had a --

8 Q. But it's been rising since '88?

9 A. Between '88 and '91 it was rising.

10 Q. And is that because of -- maybe we've
11 discussed this, but is that because of obsolescence in
12 some our plant in the province?

13 A. Well, I think the short answer is
14 that the economy weakened faster than load. We've had
15 a very deep recession, and while load may not have
16 grown very rapidly, the economy contracted even more
17 rapidly.

18 Q. And just to give you a hypothetical -
19 and you can give me your forecasts later, when I get
20 into the individual industries - but assuming that
21 industries switch from electricity or even, even
22 assuming that some industries disappear, some of your
23 major industrial loads disappear, but Ontario finds
24 another way to base its economy, other than on
25 electricity, this will fall even steeper.

1 In other words, if we can keep our GDP at
2 the same level without using as much electricity, it
3 follows that intensity drops steeper?

4 A. That is the tautology, yes.

5 Q. On page 16, I just wonder, maybe you
6 have already done this, but these 659s and 318s are
7 CANDU's are they? When they are not specified as being
8 anything, is that what we should assume they are?

9 MR. DALZIEL: A. You're referring to the
10 blocks that are called baseload?

11 Q. Yes.

12 A. Those blocks could be CANDU, they
13 could be IGCC.

14 Q. Well, why are they 659? Where was
15 that number taken from? Is that taken from a need, and
16 you just, you take it off the forecast and... Or isn't
17 that actually the value of a CANDU six?

18 A. Page 16 is produced on the basis of
19 one of the tables in Attachment J, and one of those
20 tables deals with the load and capacity tables.

21 We provided two tables, one based on IGCC
22 as the baseload facility, and the other one is using
23 CANDU as the baseload facility. And, I guess in the
24 interest of saving paper, we provided one figure and
25 indicated that the -- to cover off the fact that it

1 could be IGCC or nuclear, we are indicating that the
2 baseload -- we are calling it a baseload station in
3 this figure.

4 Q. On page 19 of the overheads, this is
5 the overhead that compares the plans. So these changes
6 from the update, I'm wondering what consultation there
7 was with the public in making these changes?

8 MR. SNELSON: A. I don't know of any
9 specific consultation activities aimed at this plan,
10 the change in the plans. Each of these was a
11 management decision made with respect to -- or managing
12 surplus, or it's something that came about as a change
13 of the load forecast.

14 I think we did discuss this morning that
15 there has been some public opinion with respect to --
16 public opinion polling with respect to priorities of
17 rates and costs and so on. But --

18 Q. Is that --

19 A. Specifically on this, I don't know of
20 any public consultation.

21 Q. Is that report going to be filed?

22 A. Which report is that?

23 Q. The report you just referred to of
24 public opinion.

25 A. I mentioned this morning that the

1 change in the priorities with respect to customers that
2 was referred to in the September board memo was based
3 on some advice from the Goldfarb Consultants.

4 Q. And can I see that?

5 MR. B. CAMPBELL: I take it this is a
6 request for an undertaking?

7 MR. R. WATSON: Well, it was a --

8 MR. B. CAMPBELL: To produce it. I mean
9 obviously --

10 MR. GREENSPOON: I guess it was a request
11 to find out if you are going to -- if it's possible to
12 see it. If it's possible to see it, then it can be an
13 undertaking.

14 MR. B. CAMPBELL: As Mr. Snelson
15 indicated, he does not have that information so I will
16 find out.

17 MR. GREENSPOON: Q. If there is any
18 public consultation --

19 THE CHAIRMAN: Can we have a number for
20 that, please?

21 THE REGISTRAR: 940.11.

22 ---UNDERTAKING NO. 940.11: Ontario Hydro undertakes
23 to provide information on any public
24 opinion poll/consultation with respect to
priorities of rates and costs.

25 MR. GREENSPOON: Q. If there is any

1 public consultation, that is the extent of it.

2 MR. SNELSON: A. To my knowledge, yes.

3 Q. So we will know in that what the
4 terms of reference, what the questions were, and what
5 the answers and results were, presumably?

6 MR. B. CAMPBELL: I understand the
7 request.

8 MR. GREENSPOON: Q. Have there been any
9 studies in Ontario Hydro since December or since -- I
10 guess to be fair, these board memos didn't just start
11 in December, Mr. Snelson, these board memos started --
12 in the summer after Panel 10, you started realizing you
13 had some surplus management problems?

14 MR. SNELSON: A. Well, I think that the,
15 some of the work in that regard, particularly
16 associated with the business plan, we already indicated
17 on Panel 10 that that was under way.

18 [2:10 p.m.]

19 Q. Okay. So have there been any related
20 forecasts with respect to Hydro's financial future and
21 whether it is realistic to assume, given the situation
22 at Hydro and forecasting beyond that situation, whether
23 Hydro will be able to build these supply options that
24 you talk about in the future?

25 A. That was to a large degree what was

1 behind the business planning and the capital program
2 review that was discussed in the September and October
3 board memos.

4 Q. And that is the extent of it?

5 A. Well, your question was with respect
6 to financing --

7 Q. Yes. Yes.

8 A. Well, there were financial -- there
9 was, for instance, a rate projection, I believe,
10 associated with one of those board memoranda.

11 Q. Yes?

12 A. Part of the thrust of those memoranda
13 was to cut down capital spending in the 1990s.

14 Q. Now, there was a statement, I --
15 maybe -- I don't think I need to find it, where you say
16 in your documentation that Hydro intends to participate
17 with its customers to ascertain market needs rather
18 than make the product and sell it. That is the essence
19 of what you are doing now?

20 A. I think that is a question that is
21 more in Mr. Shalaby's area.

22 Q. Yes, I think actually it was you who
23 said that, Mr. Shalaby. I don't have the transcript
24 reference.

25 THE CHAIRMAN: You are referring to page

1 5 of Exhibit 796, in which it says:

2 Hydro's energy management delivery
3 efforts are now more focused on customer
4 needs and market requirements rather than
5 having a technology or product as their
6 focus.

7 Is that what you mean?

8 MR. GREENSPOON: I think that is exactly
9 the same.

10 Q. So that is your position at Ontario
11 Hydro? That is the philosophy?

12 MR. SHALABY: A. That is the philosophy.

13 Q. And that is a new philosophy?

14 A. Not entirely, no. As I said in my
15 direct testimony, there were programs that had that as
16 the philosophy of delivering the program, and we want
17 to generalize that to the extent possible.

18 Q. So is there a long-term strategy for
19 this, this philosophy?

20 A. We will just apply that in the way we
21 deliver demand management, design and deliver and work
22 with customers. I don't know what 'long-term strategy'
23 means. It is not a very complicated thing.

24 Q. Does this not have broader
25 implications than just demand management, or is this

1 all this applies to?

2 A. Those statements and the testimony I
3 am giving is limited to how demand management is being
4 delivered.

5 Q. Okay. The forecast for EEI - I don't
6 know if this is for Mr. Shalaby or Mr. Burke, or both -
7 I am wondering if there are any new numbers that that
8 reflects in the total customer cost test.

9 A. Earlier today we said that we are
10 re-evaluating demand management options.

11 Q. So the EEI --

12 A. Is that the same kind of question?

13 Q. Well, it sort of is, but I guess just
14 go before that, and what I am really asking is the EEI
15 numbers we see today in Mr. Burke's forecast, did they
16 reflect any changes in the numbers in the total
17 customer cost test?

18 A. Some of them, as the forecast
19 document indicates, some options, the total customer
20 cost where those options have changed and have caused
21 some options to be outside the feasible range and
22 others who remain within the feasible range.

23 Q. All right. Now, back in Panel 10 the
24 preferred plan was to manage surplus, is that right,
25 the illustratively preferred plan?

1 MR. SNELSON: A. We indicated that we
2 intended to take action to manage the surplus, and that
3 was our illustration of how it might be done.

4 Q. And that wasn't the enhanced plan?

5 A. That is correct, although there would
6 be opportunities as time evolved if it was desirable to
7 incorporate some of the aspects of the enhanced plan.

8 Q. All right. Now, I guess the question
9 I have is which plan, which of those plans in Panel 10
10 is this plan in Exhibit 796 based on?

11 A. Exhibit 796 is the scenario that is
12 shown in Attachment J, is -- follows the philosophy of
13 the managed surplus plans. However, it only includes
14 the degree of management that has already been decided
15 upon, so it recognizes that there is still some further
16 management of surplus to do.

17 Q. So would that take -- would that
18 manage it more than -- let's call it the 'preferred
19 plan' for simplicity, and when I say 'preferred plan' I
20 mean the one in Panel 10.

21 Does this 796 plan go beyond in
22 management, or does it do less management, or is that
23 yet to be seen?

24 A. It does not manage the surplus to the
25 same degree because the surplus that is now forecast is

1 bigger and requires more management.

2 Q. Which doesn't? The preferred plan
3 didn't?

4 A. The -- Attachment J, which is the
5 current situation --

6 Q. Is more surplus now?

7 A. There is more surplus to manage.

8 Q. Right. So you would have to meet --

9 A. But the actions that are taken do not
10 get as close to eliminating surplus as did the actions
11 in the managed surplus cases in Panel 10.

12 Q. And is that because you don't want to
13 change the way you are going to manage it or there is
14 no other way to manage it now or --

15 A. No, that is because some decisions
16 have been taken in September, October and December that
17 we have told the Board about, and we are showing the
18 effects of those decisions which says this is how far
19 surplus management has gone and this is how far there
20 is still to go.

21 Q. So you do intend to manage the whole
22 surplus; you are going to find a way to manage the
23 surplus?

24 A. Possibly. Possibly not. We may
25 continue with some surplus capacity in some degree, but

1 we do intend to go further in managing surplus than we
2 have done yet.

3 Q. Now, there seems to be an implication
4 in the evidence that this plan in 796 is a firmer plan
5 than the preferred plan in Panel 10; is that true? And
6 if that's true, if you are firmer about this, if you
7 think this is it, this is the one, why?

8 A. I don't think this is necessarily a
9 firmer plan than we had in Panel 10.

10 Q. In Mr. Castrilli's cross, Mr. Burke,
11 you said that your forecasts for commercial and
12 residential turned out to be accurate and that the
13 uncertainty is now in the industrial.

14 MR. BURKE: A. I don't believe I used
15 the word "accurate".

16 I said the -- some of the commercial and
17 residential forecasts for the econometric and the end
18 use models were similar, and the uncertainty as to what
19 the forecast should be in the short term was in the
20 industrial sector.

21 Q. I was being flattering. I wasn't
22 being critical, I thought. It was an achievement to
23 have been so accurate.

24 THE CHAIRMAN: "Accuracy" is a word that
25 isn't used frequently by people who make forecasts.

1 [Laughter]

2 MR. GREENSPOON: Q. So is it then -- not
3 being a forecaster is it then fair to say that surplus
4 came from the industrial sector? Or is that too
5 simplistic?

6 MR. BURKE: A. Well, this is my point.
7 The discussion with Mr. Castrilli was about the future;
8 it wasn't about the past. I don't think we have
9 discussed why load was lower than forecast last year
10 except in my direct evidence.

11 Q. Well, then, that is the question I
12 have: Did it come from the industrial sector? That
13 was my interpretation of your evidence. Is that
14 correct, that the surplus came from the industrial
15 sector?

16 A. The reduction in the load forecast
17 from last year is due to a whole range of adjustments,
18 a broader reduction in the economy as a whole.

19 It is certainly the case that the
20 industrial sector is the weakest of all of the sectors
21 at this point and so has contributed the most to the
22 reductions that have occurred to date, but commercial
23 loads are down as well to the extent that we can
24 estimate them or infer them from the municipal utility
25 loads.

1 There is no single explanation for the
2 reduction in load to date, and in the future I have
3 indicated that the reductions relative to what we said
4 last year are related to the natural fuel switching
5 and, yes, in part to slower than expected recovery in
6 large industrial customers.

7 Q. Okay. I would like to move on to
8 transmission, which I think we best can deal with in
9 relation to Attachment I. I am looking at -- it is not
10 a very big exhibit. There are five plans, all of which
11 have had different names at different times, but
12 assuming we use these names that we see here.

13 Now, somebody asked you some questions in
14 cross-examination about the east/west tie.

15 Now, I guess we have to -- when we read
16 that what do we do with the east/west tie? What can
17 you say for sure about the east/west tie?

18 MR. SNELSON: A. I think I said what can
19 be said for sure about the east/west tie in my direct
20 evidence, which is that subsequent to the situation
21 described in Attachment I, and recall that the first
22 sentence of Attachment I says:

23 This document summarizes the position
24 after the capital program review of
25 October, '92 but does not reflect the

1 impact of the decision to cancel the
2 Manitoba Purchase taken on December the
3 14th, 1992.

4 So it talks about that. And in my direct
5 evidence I said that there would no longer be a need
6 for the Manitoba/Ontario interconnection, which is
7 effectively the east/west tie.

8 Q. Maybe we should look at the letter
9 that I filed on the other side of the coupon, and you
10 have had that since this morning.

11 Is this the position? Does this letter
12 accurately reflect the position of Ontario Hydro?

13 A. Generally, I believe so.

14 Q. Now, in relation to this if you will
15 look at Exhibit 32 and just look at page 5, the only
16 way into the west system is through Wawa, is that
17 right, right now?

18 A. The only electricity transmission
19 line between the east and the west system does go
20 through Wawa, yes.

21 Q. And that is 230?

22 A. I believe so.

23 Q. I'm looking also at Exhibit 79, the
24 big map on Exhibit 79, and the line through Wawa is a
25 red line, and the legend shows that the red line is

1 230/345. What does that mean?

2 A. I think it means that on that map
3 both 230 kV lines and 345 kV lines are shown in red.

4 Q. So how do we know which one this line
5 is?

6 A. It is 230 kV.

7 Q. All right. Well, let's come back to
8 the east/west tie in a minute. But for now, the
9 east/west tie is of no use?

10 A. I had said that we are not proceeding
11 with the east/west tie.

12 Q. Okay. Now, in our evidence in Panel
13 1 we suggested to Hydro that they consider joining the
14 135. Would that be the green lines? The smallest --
15 your smallest transmission capability is 135, is it?
16 Or is it...

17 A. Our two main transmission voltages or
18 our three main transmission voltages are 115, 230 kV
19 and 500 kV.

20 Q. So the 115 -- 115 goes to Hearst,
21 Marathon and Long Lac. I don't know if you can see it
22 on that little map or not.

23 A. I think I know on that map where
24 Hearst is, but I don't -- even know it is not marked,
25 but...

1 Q. Well, Mr. Campbell is dying to show
2 where he fishes, so maybe...

3 MR. B. CAMPBELL: You are talking about
4 the radial feed for Long Lac?

5 He was dying to say that, if the truth
6 were known.

7 MR. GREENSPOON: Hearst is -- Hearst is
8 right here. (Indicating)

9 MR. SNELSON: Hearst is west of
10 Kapuskasing, right?

11 MR. GREENSPOON: Q. You know where
12 Hearst is?

13 MR. SNELSON: A. Yes.

14 Q. Okay. Manitouwadge is northeast of
15 Marathon about a hundred miles, and Long Lac is about
16 200 miles due north of Terrace Bay -- or due north
17 of -- or where Geraldton -- do you have Geraldton on
18 there? Long Lac and Geraldton are almost in the same
19 place, east of Lake Nipigon.

20 Anyway, those are terminal ends of a 115
21 kV. Why wouldn't you join those? We suggested that in
22 Panel 1 and it appeared from the cross-examination by
23 your counsel that that was of no value.

24 MR. B. CAMPBELL: Well, let's deal with
25 what the evidence was.

1 Mr. Greenspoon's expert conceded that on
2 a closer look at the map -- we are looking at 115
3 radial feeds to serve particular loads in those areas,
4 and my understanding of his answers, having figured out
5 that these were radial feeds to serve particular loads,
6 he agreed that it wouldn't be a very useful exercise
7 necessarily in terms of achieving east/west tie
8 considerations to put a similar line between them.

9 That is my understanding of the evidence,
10 and I don't believe Mr. Snelson was here for any of it.
11 [2:31 p.m.]

12 MR. GREENSPOON: Q. Okay. Accepting
13 that, Mr. Snelson, why wouldn't it serve an east/west
14 tie given at the point that this evidence was given,
15 the Manitoba purchase was still on the table now that
16 we know there is no east/west tie?

17 MR. SNELSON: A. I haven't studied it.

18 Q. Okay.

19 A. And I have no idea whether that would
20 add to the east/west transfer capability or not.

21 Q. All right.

22 A. There are technical problems in
23 operating small transmission lines in parallel with
24 large transmission lines.

25 Q. Okay. Now, let's talk about the flow

1 south into Sudbury. What we have now, and we don't
2 need the big map for this, I don't think. I think we
3 can -- you can see there is a 500 kV line that from
4 Abitibi to Hanmer, which is just north of Sudbury; is
5 that right?

6 A. I believe it more accurately goes
7 from Pinard to Hanmer, but that's close to Abitibi.

8 Q. Pinard, right. Now, if you turn the
9 page to the exhibit on Attachment I, you're still going
10 to go ahead with another kV line, another 500 kV line.
11 You're going to rebuild the first one, and you're going
12 to build a second one. Are you still doing that? And
13 why are you doing that, if you still are?

14 A. As I said in my direct evidence, this
15 is the situation following the October decisions when
16 the Manitoba purchase was still in the plan, and I said
17 in my direct evidence that the effects on other
18 transmission plans would be evaluated and that there
19 would be effects upon the timing of some transmission
20 plans and there may be an effect scope, and this is one
21 of the plans where there may be some effect.

22 Q. So what are my client's -- where are
23 my client's to appear in relation to these transmission
24 lines? At which hearing do they appear?

25 A. I would expect that these

1 transmission lines would be subject to their own
2 environmental assessment process whatever that --
3 whether that involves a hearing or not, of course, we
4 don't know. We are not seeking the approval of the
5 need of that transmission line in this hearing, in any
6 case.

7 Q. Well, let's just have a look at the
8 notice for a minute.

9 I'm reading from the notice of hearing,
10 Mr. Chairman.

11 The approval being requested as set out
12 in Chapter 19 of the Demand and Supply
13 Report and pertains to the requirement
14 and rational for transmission in Ontario
15 to incorporate purchases from Manitoba,
16 (a); (b), the requirement and rational
17 for specified generation in transmission
18 facilities including nuclear, fossil and
19 hydraulic generation.

20 The approvals requested in this
21 application relate only to the
22 requirement and rational for addition
23 facilities. Site specific issues and
24 construction approvals will be the
25 subject of future applications.

1 Locations to be considered for new
2 facilities will include at least those
3 locations shown on the map included in
4 this notice, as well as additional
5 locations which may be identified
6 following siting studies.

7 Additional radial transmission
8 facilities would be required to connect
9 new generation into the power system.
10 The transmission connections required for
11 each of the alternative generation sites
12 are set out in the environmental
13 assessment document.

14 When I read that, I read that as saying -
15 I'm looking at Exhibit 32 - that these are the
16 transmissions associated with the facilities that
17 you're requesting approvals for.

18 MR. B. CAMPBELL: With respect, Mr.
19 Chairman, doesn't it say in terms of the radial
20 transmission that component looked to the environmental
21 assessment document. That's what it says, and it's
22 clearly set out in the document for each of the supply
23 options that was then considered.

24 MR. GREENSPOON: And that's the Exhibit 3
25 my friend is referring to.

1 MR. B. CAMPBELL: Yes.

2 MR. GREENSPOON: Q. And then if we look
3 at Exhibit 32 to see what the transmission -- Exhibit
4 32 is entitled, "Transmission Associated with
5 Hydraulic"; and we look at page five and we see that
6 with Mattagami they want another 500 kV line.

7 MR. SNELSON: A. I don't believe that's
8 what Exhibit 32 shows. Exhibit 32 on page eight shows
9 the preferred incorporated and facilities for Mattagami
10 complex.

11 THE CHAIRMAN: I'm sorry. Did you say on
12 page -- what did you say?

13 MR. SNELSON: Page eight has a diagram of
14 the preferred and incorporation facilities for the
15 Mattagami complex which shows the connection of the
16 Mattagami to the Pinard transformer station.

17 MR. GREENSPOON: Q. Well, maybe this
18 will be a matter for argument. I'm certainly not going
19 to get into an argument with you about it. I put it to
20 you that when I look at page five and I read the
21 document, that's the way I interpret it. Perhaps
22 we'll --

23 MR. B. CAMPBELL: Well, I hardly think
24 that's a fair question for Mr. Snelson. If it's a
25 speech how you interpret it, that's fine, but Mr.

1 Snelson has given -- with respect, Mr. Chairman, has
2 given his evidence.

3 MR. GREENSPOON: Q. So are you saying,
4 Mr. Snelson, that at this hearing you are not
5 improving -- calling any evidence on the need and
6 rational for transmission?

7 MR. SNELSON: A. No. We called evidence
8 on Panel 7 with respect to transmission.

9 Q. And, now, given Exhibit 796, what
10 transmission do you need and have rational for?

11 A. We are still continuing to seek
12 approval for a range of hydraulic capacity and
13 including the need for the radial transmission
14 associated with that capacity.

15 Q. And why doesn't that include this 500
16 kV line to Sudbury?

17 A. Because the 500 kV line to Sudbury is
18 an addition to an inter-area transmission line that
19 serves a number of purposes in addition to providing
20 for the possibility of additional hydraulic generation
21 or non-utility generation or additional load, greater
22 security to the load in the Timmons area. There's a
23 variety of reasons why that plan might be required.

24 Q. So if Mattagami doesn't proceed,
25 would you still build the line?

1 A. That is a matter that, as I've said,
2 is under -- I'm sorry -- if Mattagami doesn't proceed?

3 Q. Yes.

4 A. Well, the transmission plans are
5 under the review as a result of the change with respect
6 to Manitoba purchase. If Mattagami does not proceed,
7 there also could be an influence, but that's not
8 currently our plan.

9 Q. So there is no need and rational for
10 any of these five, and you've said you don't want the
11 east/west tie anymore, so let's say the remaining 2, 3,
12 4 and 5, Hydro's position is there is no need and
13 rational being proven or being asked for from this
14 panel on these four matters, 2, 3, 4 and 5.

15 MR. B. CAMPBELL: Mr. Chairman, we have
16 been absolutely clear about the approvals that we are
17 requesting, and we believe we have called sufficient
18 evidence to support the requirement and rational for
19 the approvals we are requesting. That is our position.

20 MR. GREENSPOON: Q. So you're not
21 calling any evidence about the flow of south into
22 Sudbury at this hearing?

23 THE CHAIRMAN: Other than what has
24 already been given.

25 MR. GREENSPOON: Yes.

1 Q. And that applies to the flow south
2 out of Sudbury as well, No. 3; you will not be calling
3 any additional evidence at this hearing?

4 MR. SNELSON: A. We've called the
5 evidence we feel as is necessary as Mr. Campbell's
6 indicated.

7 Q. Yes. And the same thing with the
8 flow into Greater Toronto?

9 A. Yes. We have given evidence on Panel
10 7 as to the general nature of the transmission system
11 that effects all of these interfaces and how they might
12 interact with the other matters that are under
13 consideration here.

14 Q. And similarly the Sudbury Toronto
15 area transmission reinforcement, that will be dealt
16 with at that environmental assessment?

17 A. Yes.

18 Q. Okay. Now, there's another one that
19 I don't see here and that used to be called the
20 Northeastern Upgrade, and now it's called the TRINO,
21 Transmission Reinforcement In Northern Ontario. What's
22 the status of that?

23 A. I don't believe that I have anything
24 that I can add. I'm not familiar with the details of
25 that plan.

1 Q. Okay. Now, let's just go back to
2 Little Jackfish. I think if we look at page 10 --

3 A. Of which document?

4 Q. Of Exhibit 32. That you're asking
5 for need and rational, I take it, that transmission
6 line from all along the east side of Lake Nipigon from
7 Little Jackfish GS site to Nipigon?

8 A. As I understand it, the approval that
9 is being requested is non-site specific and is for a
10 range of hydraulic capacity and energy, and the need
11 and rational for transmission is the general need and
12 rational to incorporate the radio transmission that's
13 required for that range of hydraulic capacity. So if
14 Little Jackfish is part of that range, then the need
15 and rational for that transmission would be covered.

16 Q. You're asking for a need and rational
17 for right now 13 hundred to 18 hundred -- 14 hundred to
18 18 hundred megawatts for hydraulic?

19 It changes. I can't keep track of it,
20 but it's --

21 A. Yes.

22 MR. B. CAMPBELL: It's not changed at
23 all, Mr. Chairman, and I think I've just sat down more
24 than long enough. I, for the last half-hour here, in
25 my submission, you have heard -- once we stopped

1 talking about the cancellation of the Manitoba
2 transmission project, you have heard nothing except an
3 entire repetition of matters that were covered by
4 earlier panels in which this panel was absolutely
5 explicit both in its filing and in its subsequent
6 evidence simply have not changed.

7 That being so, in my submission, this
8 line of cross-examination should be pursued no farther.
9 I've probably been overly patient.

10 MR. GREENSPOON: Well, if my friend has
11 an objection, I wish he wouldn't be patient. He could
12 stand up and object, and I think --

13 MR. B. CAMPBELL: I just did.

14 MR. GREENSPOON: Good. Well, I think
15 that there are some changes, Mr. Chairman, and if you
16 give me a minute, I'll find them.

17 Well, I'll come back to this another time
18 when I can find the changes. I'm not going to look for
19 it and take up -- waste the Panel's time now. We can
20 leave that for now.

21 Q. Now, Mr. Burke, back to the forecast,
22 I take it from your evidence in some of the
23 cross-examination that the growth in population is the
24 main driver of the forecast, the growth in the
25 forecast. Is that fair?

1 THE CHAIRMAN: The main driver of what?

2 I'm sorry. What?

3 MR. GREENSPOON: Q. Of the growth in the
4 forecast.

5 MR. BURKE: A. The only reference to
6 population in the evidence that pertains to Exhibit 796
7 as a change from previous evidence is that we have
8 increased the population in total for the year 2015 by
9 a half a million people, and we discussed at various
10 times the sources of that increase, and it causes the
11 GDP growth rate beyond 1994 to be faster than it was in
12 the previous load forecast.

13 Q. And that's why you increased it, and
14 all of the other factors for the forecast are the same
15 as they were before?

16 A. I think I went into my direct and it
17 certainly goes into Attachment C all of the things that
18 are different, and the major item that I highlighted,
19 as you may recall, is that natural gas prices are lower
20 and the response to natural gas prices and electricity
21 price differential is different in this forecast.

22 Q. So what impact does a half a million
23 people in 1994 have on the forecast? Can you isolate
24 it for me?

25 A. Well, I just said it was a half a

1 million people in the year 2015.

2 Q. All right.

3 A. And it increased GDP four per cent
4 faster in total over the period than it would otherwise
5 have.

6 Q. And that's -- that growth is from now
7 until 2014?

8 A. 2015, yes.

9 Q. 2015. Now, what assumptions -- the
10 assumption is that that population will live the same
11 lifestyle that the rest of the population in Ontario
12 lives; is that correct? That's the only way you can
13 forecast it, right?

14 Are you -- are these questions bothering
15 you, Mr. Burke?

16 A. No. I just find them a little
17 difficult to answer.

18 Q. Okay.

19 A. So I don't have an answer for what
20 the lifestyle is of the people in the forecast. They
21 are treated --

22 Q. Exactly the same.

23 A. Yes, they are.

24 Q. All right. So they do live the same
25 lifestyle as everybody in the Province now?

1 A. Everybody's lifestyle in the Province
2 now is evolving over the next 25 years of the forecast.

3 Q. All right. And what centres do these
4 people go to? Where do these people live? Do they
5 live at the same demographic distribution as we have
6 now in the Province?

7 A. The extent to which we get into the
8 spatial location of the load in Ontario, which is
9 really the only geographical location aspect that we
10 get into, I don't -- you don't specifically forecast
11 the population by region, but we do attempt to produce
12 a load forecast by region, but that's the only aspect
13 of the forecasting aspects that has a spatial element
14 to it.

15 Q. All right. Well, let's move over to
16 the industrial load because that will determine spatial
17 location of these immigrants, won't it, and these new
18 births, higher fertility, I think, you said, so we'll
19 have new people born in the province. Won't the
20 industrial load -- the industrial forecast for Ontario
21 determine where people live to some extent? Certainly
22 in Northern Ontario it will, won't it?

23 A. Yes.

24 Q. If we go to page 83 of Attachment C,
25 Table 3.3.1, in the last -- in the 11 years, the first

1 11 years of your forecast, two of the major users in
2 the industrial sector are pulp and paper and mining --
3 mining, milling and smelting; is that correct?

4 A. Yes.

5 [2:51 p.m.]

6 Q. And mining, milling and smelting and
7 refining in your forecast go down in those eleven
8 years, and yet there's a recovery from 2000 to 2015 and
9 the mining, milling and smelting and refining industry
10 are booming again.

11 Why is that?

12 THE CHAIRMAN: Well, again this went on
13 into considerable detail in Panel 1. Has anything
14 changed with respect to that projection in a matter of
15 principle?

16 MR. BURKE: In the way the forecast is
17 put together, there is no change.

18 In terms of the expectations for the
19 mining industry, in general they are more negative than
20 the forecast presented in Panel 1.

21 MR. GREENSPOON: Q. So this growth from
22 2000 to 2015 is lower? The .3 for mining, milling and
23 smelting.

24 MR. BURKE: A. Over the whole period I
25 know it's lower. I can check if it's important to you

1 whether that is the case beyond --

2 Q. Well, for example, we heard that Kidd
3 Creek has a limited supply of zinc.

4 I'll put it to you that Kidd Creek has a
5 limited supply of zinc, and that's a big load for
6 Ontario Hydro.

7 MR. B. CAMPBELL: Mr. Burke, is looking
8 up the answer to your previous question. Could we
9 perhaps let him finish that and then deal with this?

10 MR. BURKE: The answer to your previous
11 question was that in the 1990 load forecast for mining,
12 smelting and refining we had a 1.2 per cent growth rate
13 for 2000 to 2015, and it's now down to .3 per cent.

14 MR. GREENSPOON: Q. A 75 per cent
15 reduction in growth?

16 MR. BURKE: A. Yes. That's a lot
17 weaker, as I said.

18 Q. So what's that based on?

19 A. It's based on our economic analysis
20 of the possibilities for the various components of that
21 industry.

22 Q. Now, does that include steel?

23 A. Steel is --

24 Q. Iron and steel--

25 A. -- under iron and steel.

1 Q. --is below.

2 Now, you show iron and steel as a -- are
3 they the same as before? 1.4 and 1.5. So it's a
4 growth industry. It's growing more beyond the year
5 2000 than it did before the year 2000, as opposed to
6 the mining, milling and smelting.

7 A. I think you have to understand these
8 numbers. They start in '89. The '89 to 2000 growth
9 rate, a lot the negative or the reason that numbers may
10 appear to be slower growth before the year 2000 and
11 after is because of the extent of the recession that's
12 occurred in each of the industries.

13 Typically, most of the numbers would have
14 positive growth from 1994 on. What depends -- what
15 determines these averages before the year 2000, for the
16 most part, is the extent of the recession that's
17 occurred in each of the industries.

18 So the fact that iron and steel is
19 growing at 1.4 before the year 2000, it may be that
20 from '94 to 2000 the growth rate is higher than beyond
21 the year 2000, it's just that it's had some very weak
22 years in the '89 to '93 period.

23 Q. So just back up for a minute, before
24 you answer that question then, I mean, unless you've
25 found it?

1 A. Well, the growth rate we had for iron
2 and steel last time was from 2000 to 2015 was 1.7 per
3 cent. We are now 1.5 per cent, that's not a big
4 difference.

5 Q. And that would be steel across the
6 province? Hamilton and Sault Ste. Marie?

7 A. Yes, provincial steel.

8 Q. And just backing up to your last
9 point, you are optimistic, if you want to use that
10 term, about growth from '94 to 2000.

11 In other words, to put it another way,
12 looking at mining, milling and smelting which is minus,
13 0.8, if you took out the recessionary years, that you
14 call them, it would be a positive growth from '94 to
15 2000?

16 A. Yes.

17 Q. So your forecast, even though the
18 present trend is down, your forecast is mining, milling
19 and smelting is going to recover next year?

20 A. Well, "recovery" is a broad term. It
21 will --

22 Q. Well, that the growth rate is going
23 to increase.

24 A. By '94 it should be above the '92
25 level.

1 Q. And that's the same situation with
2 iron and steel?

3 A. Yes. This is load we're talking
4 about for those industries.

5 Q. Yes. And that is the same situation
6 with pulp and paper?

7 A. Yes.

8 Q. And load, in all three of those, just
9 to be clear, load has been down and load growth has
10 been negative. And your forecast is that starting next
11 year load growth will be positive in all of those three
12 sectors?

13 A. It may start earlier than that, but
14 what I'm saying is that '94 load will probably exceed
15 '92 in all three industries.

16 Q. In all three areas.

17 But that wasn't the question. Load
18 growth was down in all three of those sectors, each in
19 those years. And now you're projecting that load
20 growth is going to increase in '94 and from there on in
21 all of those three sectors.

22 A. There will be positive growth.

23 If you're now asking me is it going to be
24 faster than some previous forecasts - I didn't think
25 that--

1 Q. No, I am not asking that.

2 A. --was the question you were talking
3 about. No.

4 Q. No.

5 A. Yes. And there will--

6 Q. You got the question.

7 A. --be positive growth in those
8 industries, yes.

9 Q. And that is our forecast.

10 THE CHAIRMAN: He said it would be more,
11 if I got it right, more in '94 than there was in '92.

12 MR. GREENSPOON: Yes. I wanted him to
13 clarify that.

14 THE CHAIRMAN: Well, I think that is
15 pretty clear, I would have thought. That is positive
16 growth, as he puts it.

17 MR. GREENSPOON: Yes. And in '92, in
18 fact, compared to '91 it lower growth. There was no
19 growth. There was negative growth.

20 MR. BURKE: Well, I would have to check
21 for each industry, and actually I would only have
22 estimates for '92 at this point.

23 MR. GREENSPOON: Q. I will just finish
24 this point, your evidence was that because the
25 recession -- because the numbers of the recession were

1 in those figures from '89 to 2000, the growth would
2 be -- itm is misleading to compare the two columns,
3 because all the negative growth was during the
4 recession.

5 I took it from that answer that there was
6 negative growth in all three of those industries, and I
7 woner if you could find out if that is the case?

8 A. Well, it certainly was negative
9 between '89 and '92. Whether in the year '92, which I
10 think is the question you asked me, it was actually
11 negative in each of those three industries, I would
12 have to check.

13 Q. All right. Take the three years
14 together, '89 --

15 A. Definitely negative in all three
16 industries.

17 Q. And all of a sudder in the future
18 that is what you're predicting?

19 A. Yes.

20 Q. Growth.

21 A. And it's quite similar to the pattern
22 for the economy as a whole.

23 Q. Yes. In your opinion?

24 A. Yes.

25 MR. GREENSPOON: That is a good time to

1 stop.

2 THE CHAIRMAN: We will adjourn tomorrow
3 morning at nine o'clock.

4 THE REGISTRAR: This hearing will come to
5 order.

6 This hearing is adjourned till nine
7 o'clock tomorrow morning.

8 ---Whereupon the hearing was adjourned at 3:00 p.m.,
9 to be reconvened at nine o'clock on Wednesday,
January 13th, 1993.

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